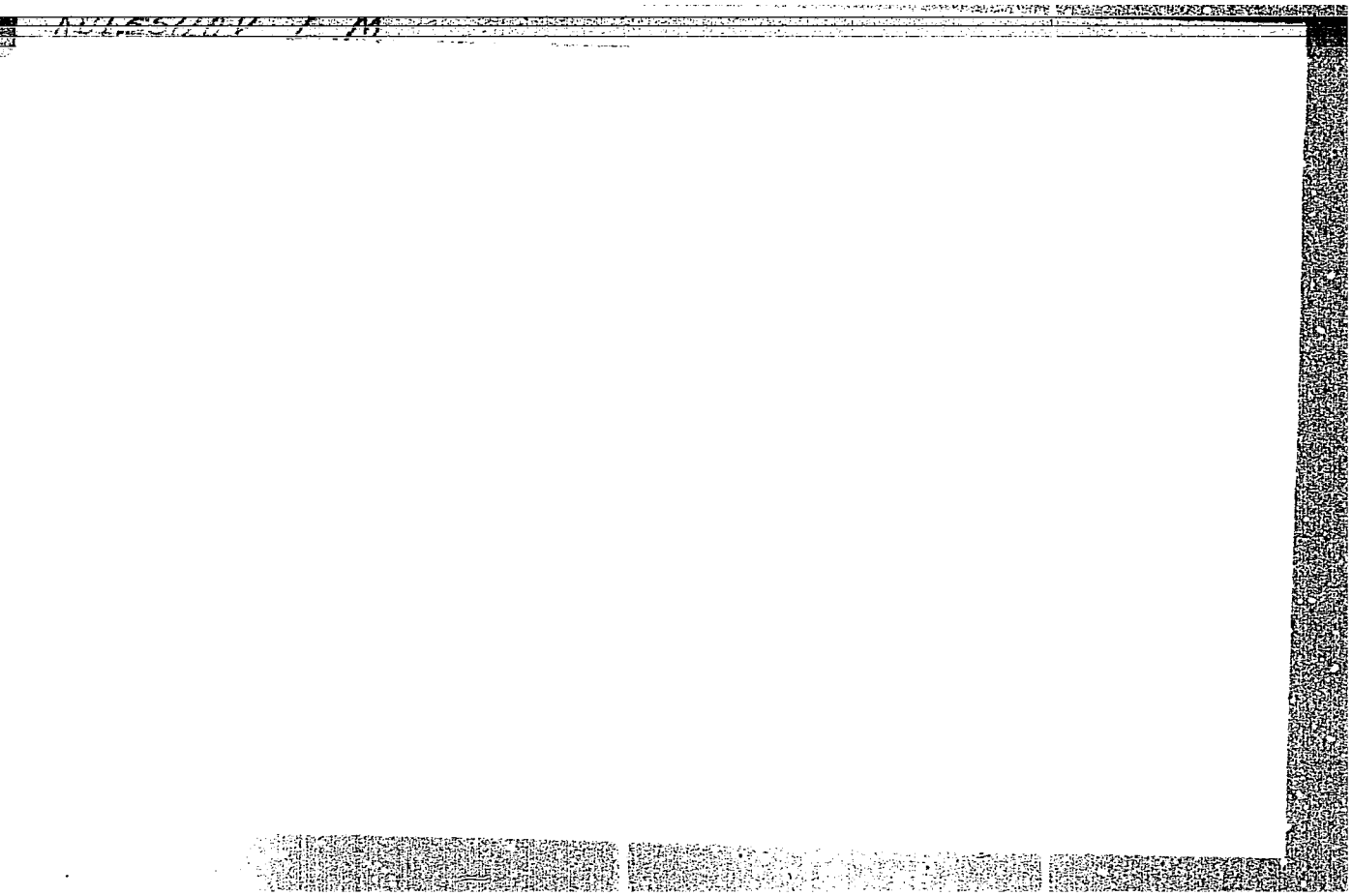


APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"

AUTHORS: Kulenhov, I. M., Naumova, A. F. 76-1-9/32

TITLE: A Study of the Sorption of Some Cations by Metallic Germanium by Means of Radioactive Indicators (Izucheniya sorbtsii nekotorykh kationov metallicheskim germaniyem pri pomoshchi radioaktivnykh indikatorov).

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp. 62-65 (USSR)

ABSTRACT: By means of radioactive isotopes the sorption of some cations -Na^+, Ca^{2+}, Fe^{3+} - by metallic germanium was investigated. These cations are contained in the reagents and substances used in etching and washing germanium and germanium products. Na^{24}, Ca^{45} and Fe^{59} were used as radio-isotopes.
1.- Sorption of sodium ions at germanium monocrystals. Ground monocrystals were used. The authors showed that during etching sodium is sorbed in small quantities at the germanium surface. The maximal is $3,4.10^{-5}$ - $8,14.10^{-4}$ g/cm^2. The experiments showed that by the washing of the etched surface of metallic germanium with hot water the sodium cations sorbed at it can not be removed completely. Only a subsequent boiling of the sample of metallic germanium in concentrated hydrochloric acid

Card 1/3

of a specific weight of 1,1 leads of the final removal of sodium from the metal surface. 2.- Sorption of calcium ions at the surface of metallic germanium. The degree of sorption was investigated, using mono- and polycrystalline surfaces of metallic germanium. The authors show that the sorption of calcium by the surface of the germanium monocrystal reaches about the same quantitative values as with sodium 1 cm^2 of the metallic germanium sorbs $5,4.10^{-6}$ g-ions of calcium. The authors show that the polycrystalline surface of metallic germanium sorbs the calcium ions almost to the same degree as to the monocrystals of this element. (The order of magnitude is the same 10^{-6} g/cm^2. The calcium ions sorbed by the surface of germanium polycrystals can also be removed only with difficulty. Even after a 2-3 times repeated treatment of the sample with boiling distilled water calcium still adheres to the germanium surface. 3.- Sorption of iron ions at germanium monocrystals. Fe^{59} was also introduced to the reaction compound in the form of chloride solution. The authors show that iron is sorbed to the same degree as sodium and calcium at the surface of the germanium monocrystal. The order of magnitude is 10^{-6} g/cm^2. The iron sorbed by the

A Study of the Sorption of Some Cations by Metallic Germanium by Means of Radioactive Indicators 76-1-9/32

surface of germanium possesses good adhesion and can not be removed by distilled boiling water. Only a heating with concentrated hydrochloric acid (specific weight 1,1) frees germanium of the scrbed iron. A repeated etching of the samples of metallic germanium cleaned this way is characterized by the loss of the capability to sorb iron ions from a solution.

V. I. Spitsyn, Corresponding Member of the Academy, assisted in this work.

There are 4 tables, and 3 references, 0 of which are Slavic.

ASSOCIATION: Institute of Physical Chemistry, Moscow. AS USSR (Akademiya nauk SSSR. Institut fizicheskoy khimii. Moskva).

SUBMITTED: September 27, 1956

AVAILABLE: Library of Congress

Card 3/3

18(2), 5(2)

AUTHOR: Kuleshov, I. M. SOV/78-4-2-37/40

TITLE: On the Thermal Stability of Silicon Nitride (O termicheskoy ustoychivosti nitrida kremniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2, pp 488-491 (USSR)

ABSTRACT: The synthesis of silicon nitride was carried out by heating finely powdered metallic silicon in a purified nitrogen current for 9 hours at 1400-1450°. The result of the chemical analysis corresponds to the compound Si_3N_4. The thermal stability of silicon nitride was investigated in the temperature range of 1000-1400°. The results show that upon heating the preparations of Si_3N_4 the weight is increased. The weight increase is caused by the reaction of decomposed silicon nitride with oxygen from the air while SiO_2 is formed. The following equation shows the process of the reaction: $Si_3N_4 + 3O_2 = 3 SiO_2 + 2N_2$. With a temperature rise the decomposition of silicon nitride increases. After one-hour

Card 1/2

heating the decomposition degree is 0.11% at 1000° and 1.41% at 1400°. The decomposition degree of silicon nitride increases upon heating in a steam atmosphere. In this atmosphere the decomposition degree is 2.07% after one-hour heating at 1200°. In air, the decomposition degree is only 0.65% after the same amount of time and upon the same conditions. The heating of silicon nitride in hydrogen atmosphere, for the period of one hour at 1200°, does not lead to decomposition. Upon the same conditions in chlorine gas atmosphere the weight of the preparation is increased by about 1% of its initial weight. Metallic magnesium and aluminum are not decomposed by silicon nitride. Silicium nitride, however, is easily decomposable in concentrated fluoric acid, with volatile ammonium hexafluoro silicate being formed. Silicon nitride can be pressed at a pressure of 60 to 80 kg/mm^2 and sintered in a nitrogen atmosphere at 1500°. The silicon nitride samples sintered in nitrogen atmosphere are harder than glass. There are 1 figure, 3 tables, and 2 references.

SUBMITTED: July 20, 1958

3943?

S/076/62/036/006/008/011
B117/B138

21 2300

AUTHORS: Kuleshov, I. M., Sadikov, G. G., and Sokolova, Z. A.

TITLE: Neutron diffraction study of highly refractory beryllium oxide

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 6, 1962, 1369 - 1371

TEXT: The effect of high temperatures on the crystal lattice of beryllium oxide was studied by neutron diffraction on polycrystalline beryllium oxide sample in vacuo at 2000°C (R. P. Ozerov, S. V. Kiselev et al. Kristallografiya, 5, 317, 1960) in the ИРТ-1000 (IRT-1000) reactor. Hexagonal lattice constants determined from the neutron diffraction pattern recorded with a ЭПП-09 (EPP-09) electron potentiometer, agreed with data determined radiographically for the same kind of sample (a = 2.695 Å, c = 4.39 Å). The presumable position of beryllium atoms in the crystal lattice of the compound studied was examined by comparing experimental and theoretical reflexion intensities. The divergence between theoretical and experimental data was assumed to be due to the Debye heat factor B. B = 0.92 ± 0.02 was calculated from experimental results and the characteristic temperature Θ = 602 ± 13°K was obtained from it. The quite high characteristic tempera-

Card 1/2

ture is consistent with the chemical, mechanical, and thermal properties of beryllium oxide. There are 2 figures and 1 table.

ASSOCIATION: Akademiya nauk SSSR Institut fizicheskoy khimii (Academy of Sciences USSR, Institute of Physical Chemistry)

SUBMITTED: October 18, 1961

Card 2/2

S/076/62/036/006/011/011
B117/B138

AUTHOR: Kuleshov, I. M.

TITLE: Academician Viktor Ivanovich Spitsyn

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 6, 1962, 1395 - 1396

TEXT: This article celebrates the 60th birthday of Academician Viktor Ivanovich Spitsyn who started his scientific work 40 years ago. He is a well-known physical chemist, Director of the Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR), Professor and Chairman of the kafedra neorganicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Department of Inorganic Chemistry of the Moscow State University imeni M. V. Lomonosov). He was born in Moscow April 25, 1902. In 1922 he completed studies in the fiziko-matematicheskogo fakul'teta (Division of Physics and Mathematics) of the Moscow University where physical chemistry was his speciality and he worked under the guidance of Professor I. A. Kablukov. In the twenties he participated in research work for the establishment of rare metals industry in the USSR, investigated the reduction of molybdenum,

Card 1/3

tungsten, and tantalum compounds, and organized the electrochemical production of metallic beryllium. With his students he studied the composition and structure of systems containing polytungstates, polymolybdates, polyniobates and related compounds. In 1961 he published the "Issledovaniya v oblasti khimii urana" (Studies on uranium chemistry) being the results of 20 years research by him and his assistants. At the beginning of the 30ties he studied the mechanism of chlorination of oxides and some natural compounds. 1940 - 1941 he and his students investigated the cation exchange of alkali metals and some aluminum silicates. Later on, he extended this work to the sorption of radiostrontium by various minerals, and to the reaction of uranium fission products with minerals in the soil. Spitsyn worked to establish a basis for the use of tagged atoms, radioactive and stable isotopes for investigational purposes, and with collaborators he published a handbook called "Metody raboty s primeneniyem radioaktivnykh indikatorov" (Working methods when using radioactive indicators) (1955). In 1958 Spitsyn found the effect of radioactive radiation on the physicochemical properties of solids. With A. A. Balandin et al. he conducted a number of studies with radioactive catalysts. He contributed considerably to the development of radiation chemistry and the synthesis of complex

Academician Viktor ...

S/076/62/036/006/011/011
B117/B138

compounds of rare elements with organic substances. He published over 200 scientific papers. 50 theses were defended under his supervision. Besides his scientific and teaching activity, Spitsyn has been politically active. His merits were rewarded by the government with the Order of the Red Banner of Labor and medals.

Card 3/3

37389

S/020/62/143/006/023/024
B101/B110

18.8300

AUTHORS: Spitsyn, Vikt. I., Academician, Yandushkin, K. N., Balezin, S. A., and Kuleshov, I. M.

TITLE: Study of the atmospheric corrosion of radioactive Armco iron and steel-2 specimens

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962, 1406-1408

TEXT: The effect of Fe^{59} ($T_{1/2}$ = 45.1 days; β: E_{max} = 0.27; 0.46; 1.56 Mev; γ: E = 0.19; 1.10; 1.29 Mev) on Armco iron and carbon steel-2 of the following composition was studied:

	C	Mn	Cr	S	P	Ni	Si
Armco iron	0.04	0.017	traces	0.020	0.010	0.18	0.2
steel-2	0.17	0.44	0.3	0.025	0.028	traces	0.24

The specimens were irradiated with slow neutrons in a nuclear reactor ($0.87 \cdot 10^{13}$ neutrons/cm^2·sec) for 48 hrs. . The induced radioactivity

Card 1/3

was 0.22 mCu/g. Corrosion was determined from the increase in weight at 23 - 25°C in air with 100% relative humidity, and compared with the corrosion of non-irradiated specimens. It was found that irradiation increased the corrosion rate considerably: The corrosion rate of Armco-iron specimens with a specific radioactivity of 0.2 mCu/g was increased by 176 times, and that of steel-2 specimens by 103 times. The increase in corrosion rate is particularly strong within the first 24 hrs. Furthermore, the corrosion rate was found to depend on the specific activity (Fig. 3). Grounding of the irradiated specimens in order to avoid anodic polarization by β-irradiation reduced corrosion but did not remove the irradiation effect. The presence of β-FeOOH containing small impurities of α-FeOOH and Fe_2O_4 in the corrosion products of both specimens was revealed by X-ray photography. Atmospheric corrosion of iron is attributed to: (a) increased ionic conductivity of the oxide film as a result of lattice defects and distortions; or (b) to increased conductivity as a result of the transition of additional electrons into the conduction band, whereby the cathodic reaction is facilitated. There are 3 figures.

Card 2/4

/

Study of the atmospheric corrosion ... S/020/62/143/006/023/024
B101/B110

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR); Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V. I. Lenina (Moscow State Pedagogical Institute imeni V. I. Lenin)

SUBMITTED: January 11, 1962

Fig. 3. Corrosion of Armco iron and steel-2 as a function of specific activity. (1) Armco iron; (2) steel-2; Legend: abscissa: specific activity, mCu/g; ordinate: increase in weight.

Card 3/4

MOKHOSOYEV, M.V.; KULESHOV, I.M.; FEDOROV, P.I.

Thermographic investigation of the systems consisting of potassium tetramolybdate - potassium carbonate and potassium tetratungstate - potassium carbonate. Zhur.neorg.khim. 7 no.7:1628-1631 Jl '62. (MIRA 16:3)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosva.
(Potassium carbonate) (Molybdates) (Tungstates) (Thermal analysis)

L 14296-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG
ACCESSION NR: AP3000110 S/0126/63/015/004/0628/0631

AUTHOR: Troitskiy, O. A.; Kuleshov, I. M.; Likhtman, V. I.

TITLE: Influence of electron- and alpha-radiation on microhardness of zinc and cadmium in the presence of tin

SOURCE: Fizika metallov i metallovedeniye, vol. 15, no. 4, 1963, 628-631

TOPIC TAGS: Zn microhardness, Cd microhardness, radiation effect, Zn, Cd, Sn, Zn-Sn, Cd-Sn

ABSTRACT: Samples of pure Zn and Cd and their alloys with tin were exposed to an electron flux with the energy 1 Mev and to alpha-radiation. Their microhardness was subsequently measured with the PMT-3 device. The samples were cut from Zn and Cd foil 0.2 mm thick and electrolytically coated with a tin layer 3 microns thick. The effect of the neutron and alpha-radiation on the microhardness of the metal covered by a solid coating and the effect on the surface activity of a liquid coating have been studied. The authors concluded that Zn-Sn samples showed a larger increase in microhardness (40%) than Cd-Sn (17%). The largest microhardness increase was obtained by the alpha-particle bombardment of the Zn-Sn samples. The thickness of the hardened zone corresponds to the depth of alpha-particle penetration. The irradiation also increased the surface activity of a liquid coating.

Card 1/2/ Association: Inst. of Physical Chemistry

L 18653-63 EWT(l)/EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG/WB

ACCESSION NR: AP3004589 S/0126/63/016/001/0044/0050

AUTHOR: Troitskiy, O. A.; Kuleshov, I. M.; Likhtman, V. I. 65

TITLE: Combined effect of radioactive radiation and mercury on mechanical properties of zinc single crystals 62

SOURCE: Fizika metallov i metallovedeniye, v. 16, no. 1, 1963, 44-50

TOPIC TAGS: zinc single crystal, mercury-treated crystal, crystal tensile strength, crystal ductility, electron-bombardment effect, α-particle-bombardment effect, β-particle-bombardment effect, γ-ray-irradiation effect, combined mercury-treatment-irradiation effect, stress relaxation

ABSTRACT: Tension tests have been conducted on mercury-coated specimens of zinc single crystals 10 mm long and 1 mm in diameter, bombarded with α- and β-particles or γ-rays from Pu^{239}, P^{32}, and Co^{60}, and uncoated specimens bombarded with electrons, β-particles, or γ-rays. After bombardment for 3—5 min the uncoated specimens were stretched, with a three-minute rest under load after the first minute and after each subsequent three-minute loading. The test results showed that electron, β-, or γ-irradiation increases the tensile strength and ductility

Card 1/3

2

by intensifying the stress relaxation and increasing the plastification of zinc single crystals. The latter process appears to be associated with the appearance and annihilation of radiation defects rather than with the migration of crystal defects. The ordinary dislocation plastic flow appears to be supplemented by diffusion flow during the final rest period. Additional vacancy-atom Frenkel pairs introduced by irradiation facilitate the process. The stretching at 20 and -196C of mercury-treated specimens previously bombarded by α- or β-particles for up to 1550 hr or irradiated by γ-rays for up to 1450 hr showed that short-time irradiation increased the ductility and, to a lesser extent, the tensile strength, particularly at -196C. The maximum increase in tensile strength was 35% at -196C, after an exposure of 16—18 hr. After exposure for longer than 1000 hr, the tensile strength dropped by 50% at subzero temperatures and by 75—80% at 20C. Elongation of the specimens followed a similar pattern: a 300% increase in ductility occurred after exposure for 25—26 hr; after further exposure, gradual embrittlement occurred. Strengthening after comparatively short exposure to radiation is associated with the induction of radiation defects and intensification of the diffusion penetration of mercury into zinc (alloying). The sharp weakening of the crystals after exposure for over 1000 hr is the result of coagulation of radiation defects

L 18653-63
ACCESSION NR: AP3004589

and formation of new internal interfaces. Migration of mercury to these interfaces sharply lowers the free surface energy, and consequently the strength and ductility. Orig. art. has: 6 figures.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AN SSSR)

SUBMITTED: 28Dec62 DATE ACQ: 27Aug63 ENCL: 00

SUB CODE: MA NO REF SOV: 007 OTHER: 002

Card 3/3

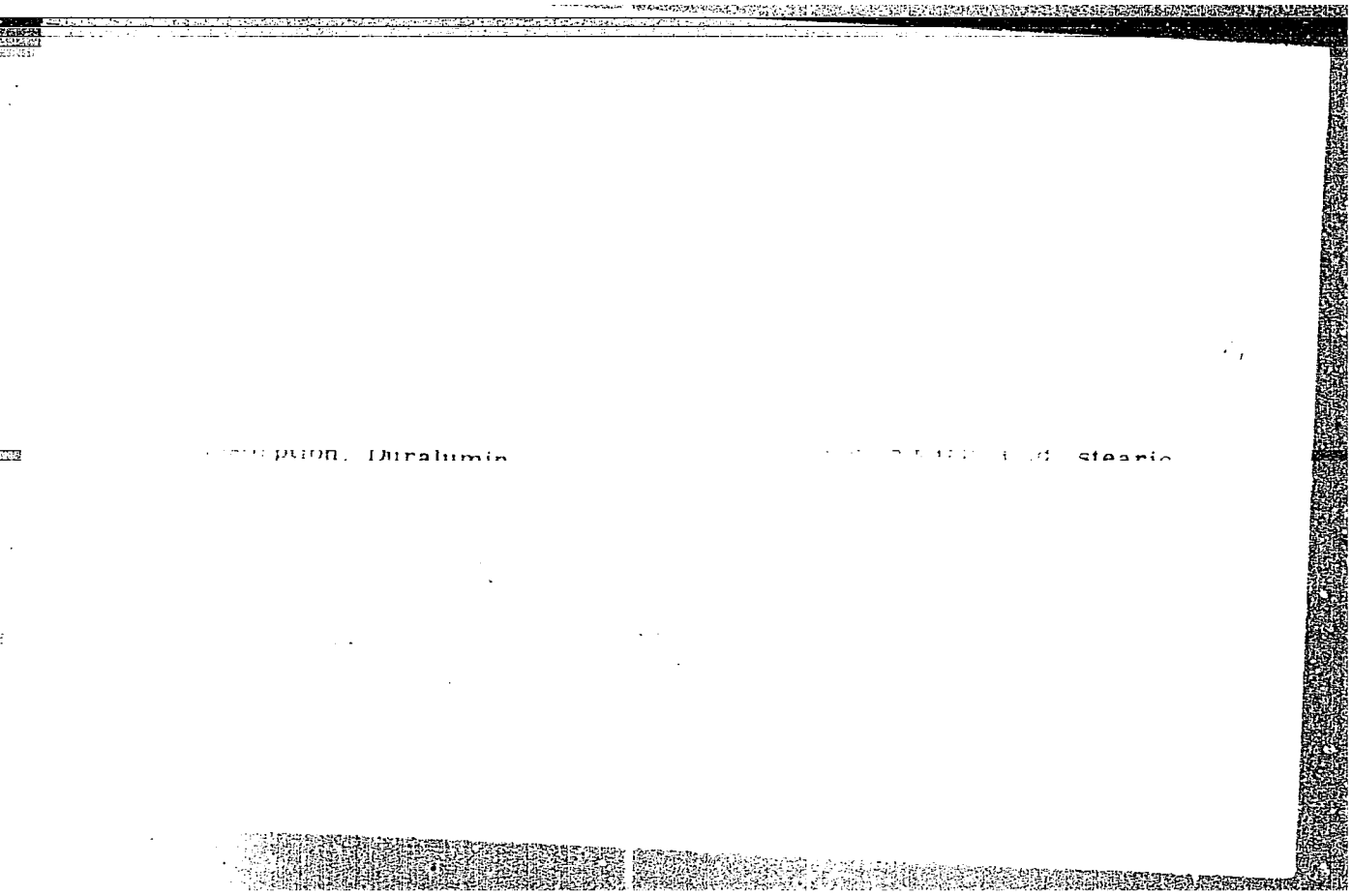
KULESHOV, I.M.

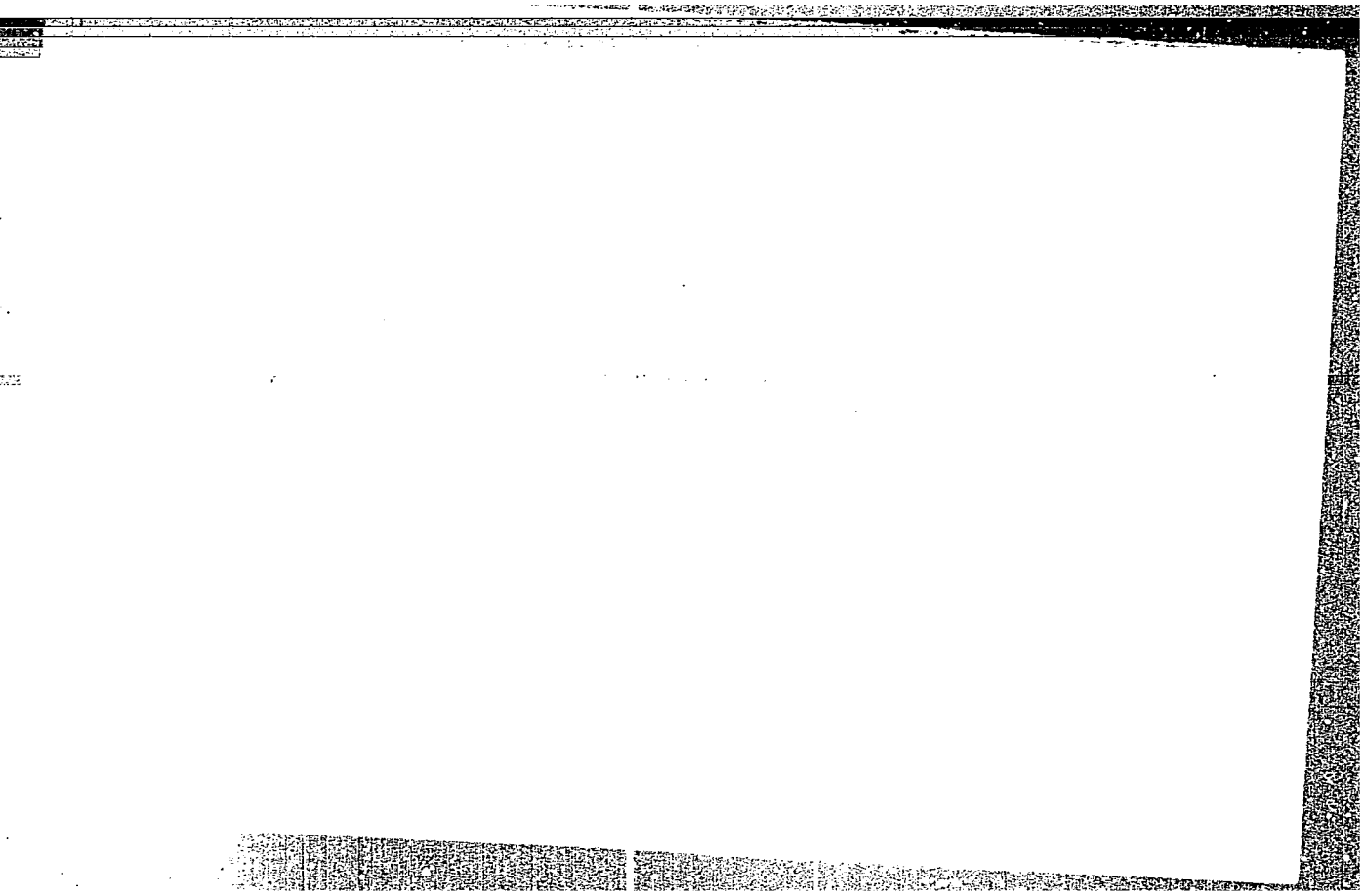
Chemistry at a new stage. Khim.v shkole 18 no.2:3-10 Mr-Ap '63.
(MIRA 16:4)

1. Institut fizicheskoy khimii AN SSSR.
(Radiochemistry)

KARGINTSEV, A.N.; AVVAKUMOV, Ye.G.; KULESHOV, I.M.

Separation factors of radioactive fission elements in the process of directed crystallization of sodium nitrate. Radiokhimiia 7 no.1:3-7 '65. (MIRA 18:6)





APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"

L 22071-66 EWT(m)/EPF(n)-2/T/EWP(t) IJP(c) JD/WW/JG
ACC NR: AP6008050 SOURCE CODE: UR/0020/66/166/004/0880/0882

AUTHOR: Kuleshov, I. M.; Shishakov, N. A.; Kavtardze, N. N.; Sokolova, N. P. 32

ORG: Institute of Physical Chemistry, Academy of Sciences SSSR (Institut fizicheskoy khimii Akademii nauk SSSR) B

TITLE: Study of the structural transformations of UO_2 under the influence of high temperature and zirconium or thorium dioxide admixtures

SOURCE: AN SSSR. Doklady, v. 166, no. 4, 1966, 880-882

TOPIC TAGS: zirconium compound, thorium compound, uranium compound

ABSTRACT: The effect of ZrO_2 and ThO_2 admixtures and thermal pretreatment on the properties and structure of uranium dioxide was studied on samples prepared by co-precipitating the hydroxides, reducing to UO_2, grinding into a powder and pressing into pellets, then hardening and quenching. The transformations taking place were observed by chemical and spectral (x-ray and infrared) methods. It is shown that thermal hardening of pressed UO_2 in the presence of small amounts of ZrO_2 or ThO_2 at high temperatures (1600°C) causes an increase in its crystal lattice parameters

Card 1/2 UDC: 541.66

L 22071-66
ACC NR: AP6008050

and changes in the absorption bands in the infrared spectra. These structural changes also substantially affect the vaporization of UO_2. The latter is decreased by the presence of ZrO_2 and ThO_2. The paper was presented by Academician V. I. Spitsyn on 3 Jun3 1965. Orig. art. has: 3 tables.

SUB CODE: 07/ SUBM DATE: 03Jun65/ ORIG REF: 004/ OTH REF: 003

Card 2/2 dla

DROZHZHIN, I.; KULESHOV, L.

Thin layer ice formation with nonfreezing interlayers.
Khol.tekh.32 no.3:52-53 Jl - S '55. (MLRA 9:1)
(Ice--Manufacture)

POMAZKOV, Yu.I., mladshiy nauchnyy sotrudnik; DUBINEVICH, B.N., starshiy nauchnyy sotrudnik (Mironovka, Kiyevskoy obl.); BLAGOVESHCHENSKAYA, V.S., agronom; BUGAYEV, I.D.; KULESHOV, L.A.; SHEREMET, I.V.; KONDAKOV, N.

Following up our articles. Zashch. rast. ot vred. i bol. 7 no.11: 18-19 N '62. (MIRA 16:1)

1. Institut sadovodstva nechernozemnoy polosy (for Pomazkov). 2. Pochinkovskoye territorial'noye proizvodstvennoye upravleniye, Gor'kovskaya oblast' (for Blagoveshchenskaya). 3. Starshiy agronom Shatrovskogo otryada po bor'be s vreditelyami i boleznyami sel'skokhozyaystvennykh rasteniy (for Bugayev). 4. Nachal'nik Gomel'skogo otryada po bor'be s vreditelyami i boleznyami sel'skokhozyaystvennykh rasteniy (for Kuleshov). 5. Agronom po zashchite rasteniy sel'skokhozyaystvennoy arteli imeni Frunze, Kupenskogo rayona, Khar'kovskoy oblasti (for Sheremet). 6. Nachal'nik Chuvashskoy respublikanskoy stantsii zashchity rasteniy (for Kondakov).

KULESHOV, Lev Vladimirovich

[The film, cutting and editing] Kadr montazh. Moskva, Gos.izd-vo "Iskusstvo." Vol.1. 1961.

(Motion-picture photography) (MIRA 16:12)

1. KULESHOV, M.A.

2. USSR (600)

4. Hemophilia

7. Minutes of the Session of the Surgical Society of Moscow and Moscow Province of April 25, 1952, Khirurgiia, No. 12, 1952

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

KULESHOV, M.M., akademik

How we can attain the high yields of agricultural products.
Nauka i zhyttia 9 no.11:17-19 N '59. (MIRA 13:3)

1. AN USSR i Ukrainskaya akademiya sel'skokhozyaystvennykh nauk, Khar'kov.

(Ukraine--Agriculture)

SAVITSKIY, Konstantin Amosovich[Savyts'kyi, K.A.], kand. sel'khoz. nauk; KULESHOV, M.M., akademik, otv. red.; KIREYEV, F.M. [Kirieiev, F.M.], red.; MIL'KIN, Yu.A., tekhn. red.

[Growing buckwheat in the Ukraine]Kul'tura hrechky na Ukraini. Kyiv, Derzhsil'hospvydav URSR, 1963. 202 p. (MIRA 16:4)
(Ukraine--Buckwheat)

SICHENKO, V.K.; IVANOV, B.V.; POLYAKOV, I.I.; REZNIKOV, A.A.; LOKFMAN, G.A.; IZRAELIT, E.M.; NOTYCH, A.G.; TOPYGIN, L.A.; CHALYY, G.Ya.; STETSENKO, Ye.Ya.; UDOVICHENKO, L.V.; FILIPPOV, B.S., nauchn. red.; LERNER, R.Z., nauchn. red.; GOL'DIN, Ya.A., glav. red.; KULESHOV, M.M., red.; POLOTSK, S.M., red.

[By-product coke industry] Koksokhimicheskoe proizvodstvo. Moskva, Metallurgiia, 1965. 167 p. (MIRA 18:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut informatsii i tekhniko-ekonomicheskikh issledovaniy chernoy metallurgii. 2. Direktor TSentral'nogo nauchno-issledovatel'skogo instituta informatsii i tekhniko-ekonomicheskikh issledovaniy chernoy metallurgii (for Kuleshov).

BOGDANOV, A.T., inzh.; KULESHOV, M.P.

Difficulties with sludge ice at the Uglich Hydroelectric Power Station. Gidr. stroi. 31 no.9:37-40 S '61. (MIRA 14:12)
(Uglich Hydroelectric Power Station--Ice on rivers, lakes, etc.)

RODIN, B.I., kand.ekonom.nauk; KULESHOV, M.S., nauchnyy red.; LOGINOVA, R.A., red.; POLYANSKAYA, Z.P., tekhn.red.

[Technical and economic problems in the introduction of new materials to the machinery industry] Tekhniko-ekonomicheskie problemy vnedreniia novykh materialov v mashinostroenie. Moskva, 1963. 109 p. (Moscow. TSentral'nyi institut nauchno-tekhnicheskoi informatsii po avtomatizatsii i mashinostroeniiu. Seriia: Ekonomika i spetsializatsiia mashinostroeniia. Organizatsiia proizvodstva, no.81). (MIRA 16:12)

AUTHORS: Kuleshov, M. Ya., Petrov, N. P., Candidates of Technical Sciences and Vlasov, V. I., Engineer. 129-7-8/16

TITLE: Influence of the conditions of deformation on the properties of the B A -17 aluminium alloy. (Vliyaniye usloviy deformirovaniya na svoystva splava VD-17).

PERIODICAL: "Metallovedenie i Obrabotka Metallov" (Metallurgy and Metal Treatment), 1957, No.7, pp.33-39 (U.S.S.R.)

ABSTRACT: This alloy is used in the Soviet Union for manufacturing compressor blades of aviation engines by stamping blanks from pressed sheet. Its chemical composition is: 3% Cu; 2.3% Mg; 0.6% Mn; up to 0.3% Fe; up to 0.3% Si; rest Al. The authors consider it of practical interest to study the conditions of deformation on the structure and mechanical properties of this alloy and in this paper the influence of the temperature and the degree of deformation on the fundamental properties of the alloy are investigated. The tests were carried out on strips of 60 x 100 mm cross section from a single melt which were hardened and artificially aged. Four specimens were subjected to long-duration strength tests at 270 C with a load of 6.5 kg/mm^2 and after 100 hours loading the specimens were removed without any failure. The macro and micro-structure conformed to the requirements which have to be

Card 1/3

Influence of the conditions of deformation on the properties of the ВД-17 aluminium alloy. 129-7-8/16

met by the material in the hardened state. The blanks were deformed in a 700 ton press applying reductions of 17, 28 and 40% at the temperatures 20, 150, 300, 400, 450 and 500 C; the heating time was 40 mins. After shaping, the specimens were hardened and aged at 180 C for 16 hours. Fig.1 shows the relation between the relative elongation and the widening of the blanks as a function of the degree of deformation at 450 C. Figs. 2-6 show the macrostructures of blanks deformed by 28% (magnification 2.5 times) at 20, 450, 300 (transverse), 300 (longitudinal), and 500 C respectively; Fig.7 shows the structure of a blank deformed by 40% at 450 C, magnification x20. In Fig.8 the relation is plotted between the degree of deformation at 20 C of the turns of a thread and their distribution along the height of the blank; Fig.9 shows the same relation applicable for 450 C; Fig.10 shows the same relation for a total deformation of 40% at 500 C. Fig.11 shows a three-dimensional recrystallisation diagram expressing the grain size as a function of the degree of deformation and the temperature. Fig.12 shows the dependence of the mechanical properties of the alloy, after being deformed by 28%, as a

Card 2/3

Influence of the conditions of deformation on the properties of the B[illegible]-17 aluminium alloy. (Cont.) 129-7-8/16

function of the temperature between 0 and 500 C. The results of long-duration strength tests at 270 C with a load of 7 kg/mm^2 are plotted in Fig.13 (time to failure vs. temperature) for specimens deformed by 17, 28 and 40%. The results show that the optimum shaping range for this alloy is between 480 and 380 C. There are 13 figures, no references.

AVAILABLE:

Card 3/3

69514

SOV/123-59-21-87563

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 21, p 66 (USSR)

18.5200

AUTHORS: Dityatkovskiy, Ya.M., Kuleshov, M.Ya., Shcherbinin, K.P.

TITLE: Precision Pressing of Compressor Blades

PERIODICAL: V sb.: Novoye v kuznechno-shtampovochn. tsekhakh Leningrad., Leningrad, 1958, pp 89 - 107

ABSTRACT: A description is given of the process of precision pressing of blanks for compressor blades from Kh17N2 grade steel, without allowance for the mechanical treatment of the palm and with a lateral tolerance of + 0.08 - 0.12 on the palm profile. The process consists of 15 operations, including heating, pressing, pickling and heat-treatment, and makes it possible to cut down considerably the general labor consumption for the manufacture of blades. The surface quality of the blades, macrostructure, microstructure, and the mechanical properties of the blanks after the heat-treatment were satisfactory. The manufacturing and heat-treatment technologies of the dies are described: technical-economical indices are given, as well as general recommendations for a further improvement of technology.

Ye.A.I.

Card 1/1

KULESHOV, M.Ya.

PHASE I BOOK EXPLOITATION SOV/3559

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, t. 5 (Investigations of Heat-Resistant Alloys, Vol 5) Moscow, Izd-vo AN SSSR, 1959. 425 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V.A. Klimov; Tech. Ed.: I.F. Kuz'min; Editorial Board: I.P. Bardin, Academician, G.V. Kurdyumov, Academician, N.V. Ageyev, Corresponding Member, USSR Academy of Sciences (Resp. Ed.), I.A. Oding, I.M. Pavlov, and I.F. Zudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

COVERAGE: This book, consisting of a number of papers, deals with the properties of heat-resisting metals and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of metals. The effects of various elements such as Cr, Mo, and V on the heat-resisting properties of various alloys are studied. Deformability and workability of certain metals as related to the thermal conditions are the object of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of ceramic coatings on metal surfaces by means of electrophoresis are examined. One paper describes the apparatus and methods used for growing monocrystals of metals. Boron-base metals are critically examined and evaluated. Results are given of studies of interatomic bonds and the behavior of atoms in metal. Tests of turbine and compressor blades are described. No personalities are mentioned. References accompany most of the articles.

Bategov, B.N., V.N. Martynov, and M.Ya. Kuleshov. Production of Forgings for Turbine and Compressor Blades 277

Dobrovenskiy, V.V., and N.D. Zhemchuzhina. Developing Apparatus and Methods for Obtaining Monocrystals of Metals 280

Moguchii, L.N. Forming and Its Effect on the Properties of Certain Nickel Alloys 285

Rebinder, P.A., V.I. Likhtman, and K.S. Gorbunov. Adsorptional Decrease in Strength of Metal Monocrystals and Spontaneous Dispersion in a Liquid Medium. Diffusion Coatings on Molybdenum 293

Chukhov, A.P., L.I. Chudnova, and O.Ye. Zavodnaya. Application of Ceramic Coatings by the Electrophoresis Method 303

Tomashov, N.D., N.I. Tugarinov, and A.A. Yeresin. Heat Resistance of Chromium-Nickel Alloys 308

Klyavin, O.V., and A.V. Stepanov. Temperature Dependence of Plasticity and Strength of Metals and Alloys 317

Zhukhovitskiy, A.A., A.D. Sotskov, and S.Z. Bokshteyn. Study of Thermodynamic Characteristics of Interatomic Bonds and of the Mobility of Atoms in Alloys 330

Chudnovskiy, A.F. Study of Thermal Characteristics of Alloys 335

Olesevich, K.V., and R.F. Mocharnyuk. On Methods of Testing Blade Material for Erosion and Corrosion Resistance Under Simulated Operating Conditions 346

Davidenkov, N.N., and D.M. Vasil'yev. Dilatometric Study of Relaxation of Plastically Deformed Alloys 352

Legrand, S.V. Method of Elongation by Forging With the Use of Back Pressure 358

Kuznetsov, V.D. Basic Problems in Mechanical Properties of Heat-Resistant Alloys 361

AVAILABLE: Library of Congress

Card 9/9

VK/jb
5-18-60

57

KRAVCHENKO, N.A.; KULESHOV, M.Ya.

Precision forging of steel blanks for compressor blades. Kuz.-shtam. proizv. 1 no.5:4-10 My '59. (MIRA 12:10)
(Forging)

KULESHOV, M. YA.

PHASE I BOOK EXPLOITATION SOV/3791

Soveshchaniye po obrabotke zharoprochnykh splavov, Moscow, 1957.

Obrabotka zharoprochnykh splavov; [sbornik dokladov...] (Treatment of Heat-Resistant Alloys; Collection of Papers Read at the Conference). Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya; Akademiya nauk SSSR. Institut metallurgii im. A.A. Baykova. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Dikushin, Academician; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: V.V. Bruzgul'.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book consists of thirty papers read at the Conference on the Treatment of Heat-Resistant Alloys held in Moscow by the Committee on Machine-Building Technology, Institute of the Science of Machines, Academy of Sciences USSR, in 1957. The papers deal with four principal areas of alloy metallurgy: casting, forming, machining, and welding. The alloys (together with refractory carbides, borides, nitrides, and oxides) are discussed especially in connection with their application in the manufacture of turbine blades, heat engines, boilers, reactors, containers for high-temperature media, dies, casting molds, and metal-cutting tools. No personalities are mentioned. Some of the articles are accompanied by references, mainly Soviet.

Aksenov, F.V. Cast Rotor Blades for Gas Turbines 25

Korneyev, N.I., I.G. Skugarev, S.B. Pevzner, and Ye.I. Razuvayev. Thermomechanical Conditions in the Pressworking of Refractory Alloys of Molybdenum and Chromium Base 33

Kudryavtsev, I.B., and B.I. Aleksandrov. Effect of Work Hardening on the Fatigue Strength of Heat-Resistant Steels at High Temperatures 41

Revinov, V.M. Deep Drawing of Products From Heat-Resistant Sheet Metals With the Application of Deep Freezing 53

Klyemenov, V.Ya., and T.N. Sazonova. Plastic Workability and Mechanical Properties of Titanium Alloys as Determined by the Conditions of Hot Working 59

Davydov, Yu.P. Special Features of the Stamping of Heat-Resistant and Titanium-Alloy Sheet 67

Petrov, I.S. Upsetting of Heat-Resistant Steel Standard Parts [Aircraft Fasteners: Bolts, Rivets, Etc.] 75

Kuleshov, M.Ya. Precision Drop Forging of Steel [Turbocompressor] Blades 79

Eyfir, Ye.M. Process of Manufacturing Turbine-Blade Blanks From Heat Resistant Alloys With Minimum Machining Allowances Along the Blade 87

Nikol'skiy, L.A. Special Features of the Drop Forging of Titanium Alloys 98

Nikolayev, G.A. Welding of Turbine Parts Made of Heat-Resistant Alloys 109

Medovar, B.I. Automatic Electric-Arc and Electroslag Welding of Heat-Resistant Alloys 113

BASYUK, S.T.; KULESHOV, M.Ya.

Equipment for the investigation and control of extrusion processes. Kuz.-shtam.proizv. 4 no.8:13-15 Ag '62. (MIRA 15:8)
(Extrusion (Metals)—Testing)

YEVLANOV, N.G.; RYNSKIY, I.M.; KULESHOV, M.Ya.

Making panels by the method of local forging. Kuz. shtam. proizv. 4 no.11:1-5 N '62. (MIRA 15:11)
(Forging)

YEVLANOV, Nikolay Grigor'yevich; KULESHOV, Mikhail Yakovlevich; LADONINA, L.V., tekhn. red.

[Present state and direction for the expansion of forging and drop forging processes; review of foreign practices] Sostoianie i napravlenie razvitiia kuznechno-shtampovochnogo proizvodstva; obzor zarubezhnoi tekhniki. Moskva, TSentr. in-t tekhniko-ekonomicheskoi informatsii, 1961. 66 p. (MIRA 17:3)

L 45062-65 EWT(m)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4/
Pu-4 IJP(c) MJW/JD/EM/JG

ACCESSION NR: AR5008958 S/0277/65/000/001/0025/0025

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Otd. vyp., Abs. 1.48.125

AUTHOR: Pavlov, I. M.; Danil'chenko, A. N.; Rastegayev, M. V.; Mezin, V. Ya.; Napalkov, L. A.; Kuleshov, M. Ya.

TITLE: A study of plasticity and microstructure of VM-2 alloy when deformed by upsetting

CITED SOURCE: Tr. Mosk. in-ta metallurgii, Mosk. energ. in-ta i Mosk. in-ta stali i splavov vyp. 44, 1963, 256-263

TOPIC TAGS: molybdenum alloy, alloy plasticity, alloy microstructure, hot upsetting, bulge test, optimum deformation temperature, VM-2 alloy

TRANSLATION: The report gives the results of a study of the plasticity and microstructure of VM-2 molybdenum alloy after upsetting. The alloy's mechanical properties at room temperature were: $\sigma_{0.2}$ = 27.2 - 28.0 kg/mm^2, S_{cr} = 37.0 - 41.0 kg/mm^2, δ = 6-10%, ψ = 5-8.5%. Samples with diameter = 20 mm were bulge-tested on a 450 kg-m vertical impact tester with a max. ram drop rate of 10 m/sec. Billets were annealed at 1400C prior to shaping into cylindrical samples.

Card 1/2

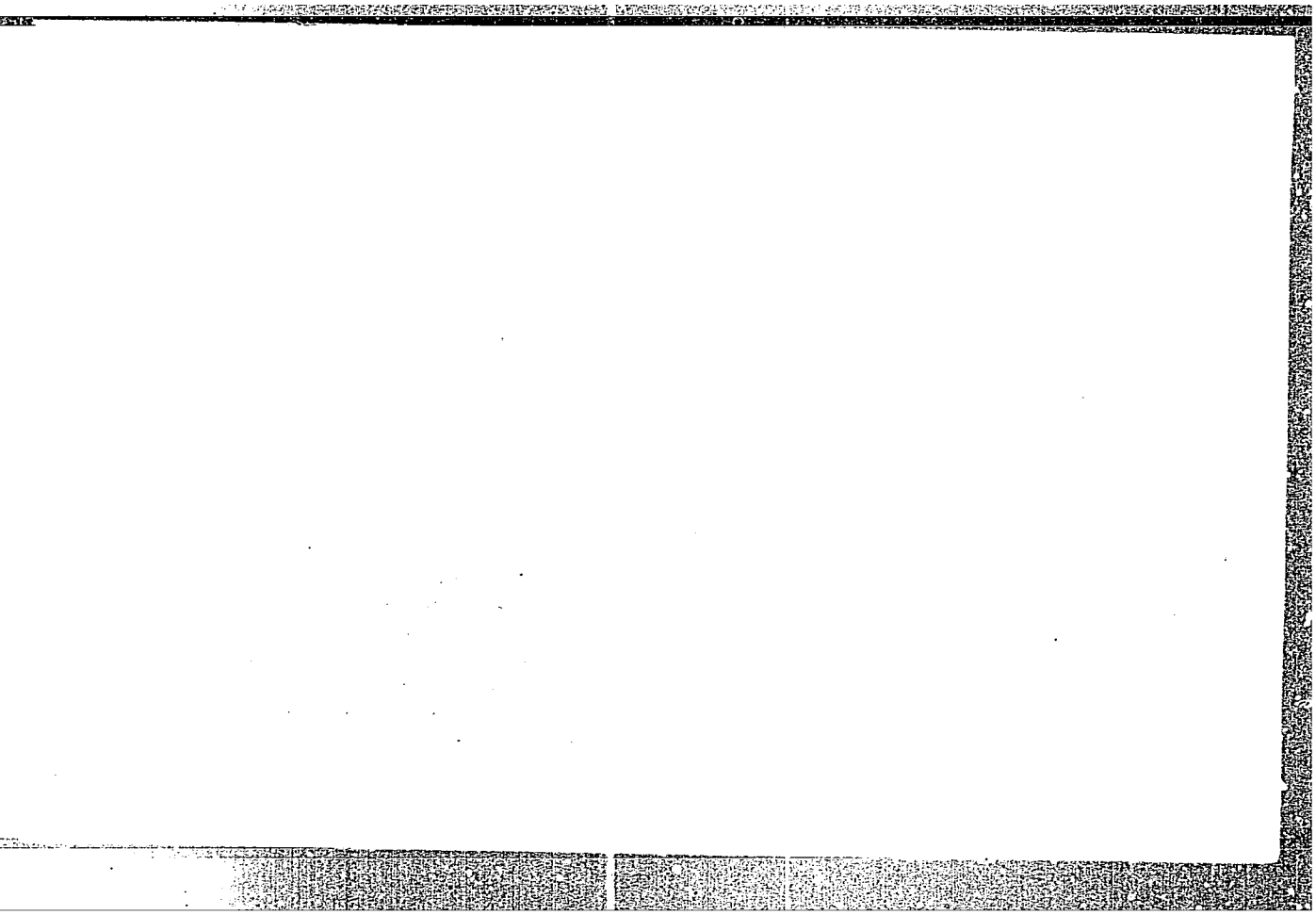
L 45062-65
ACCESSION NR: AR5008958

2

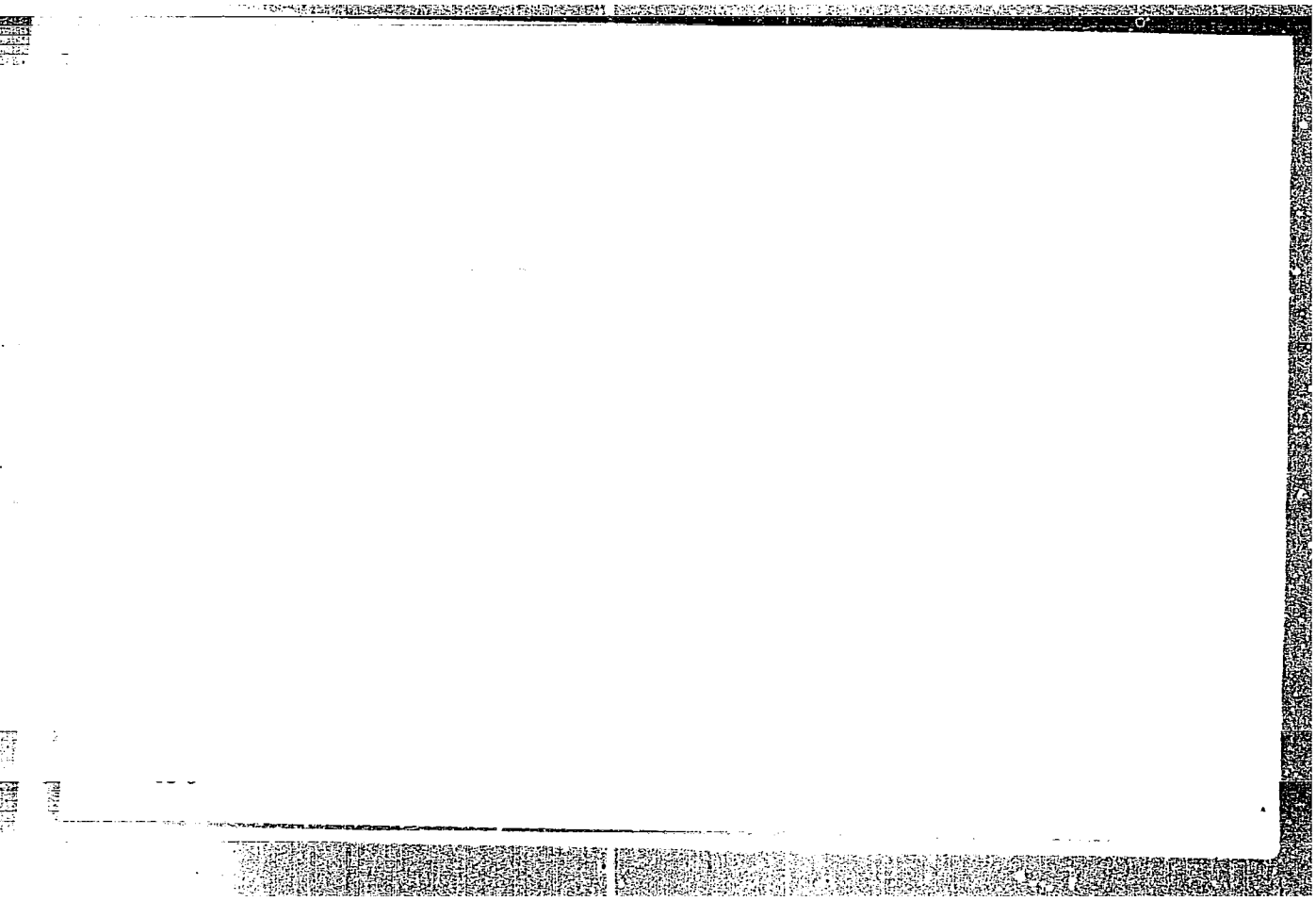
It was found that commerical grades of VM-2 alloy exhibit adequate plasticity in a pressed and annealed state. The samples were upset along the axis of symmetry to levels of 70% without the development of cracks at 800-1400C. Cracks were also absent in diameter reduction (spread) to max. deformation of 55-58% at 800 or 900C. They occurred only when upsetting at 500-700C. A comparison of effective pressure values for open end upsetting at 900-1200C has shown that this characteristic reaches levels higher by 10-40% for VM-2 alloy than for steels EI17B2 and 30KhGSA, other conditions being equal. Deformation temperatures of 1200 to 900C are recommended in relation to alloy VM-2. Bibl. with 3 titles; 4 illustrations. G. Mekhed

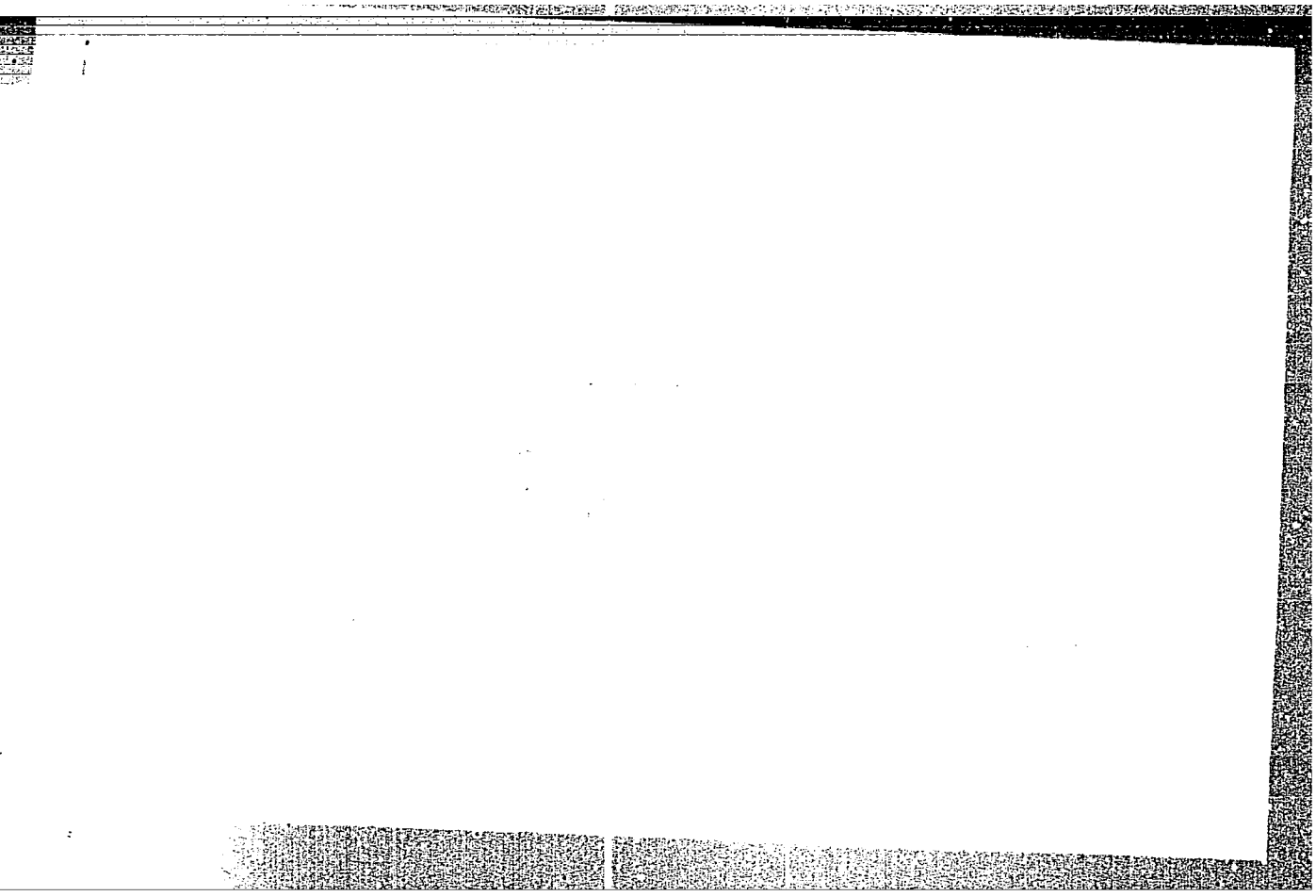
SUB CODE: MM ENCL: 00

Card 2/2

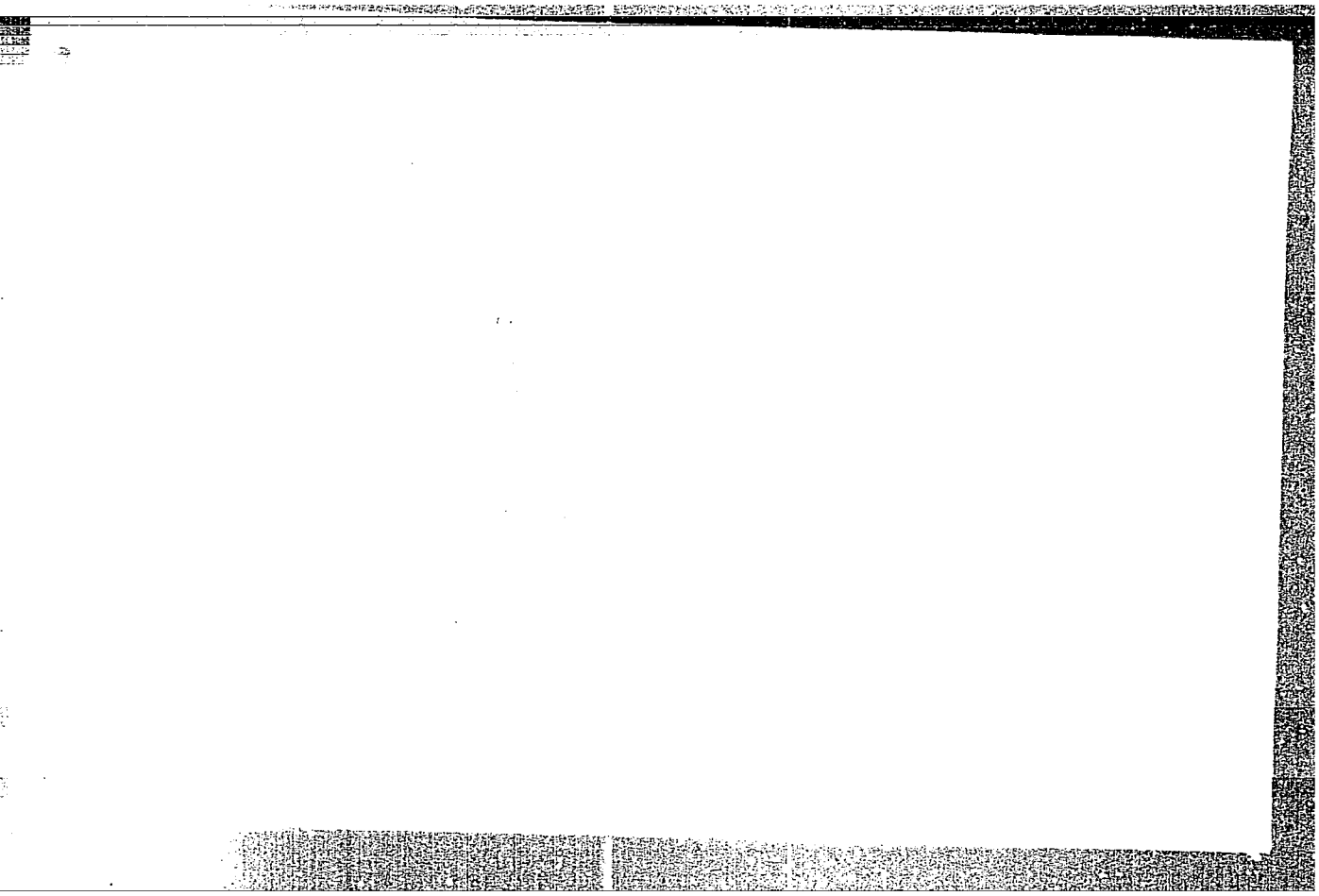


APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"

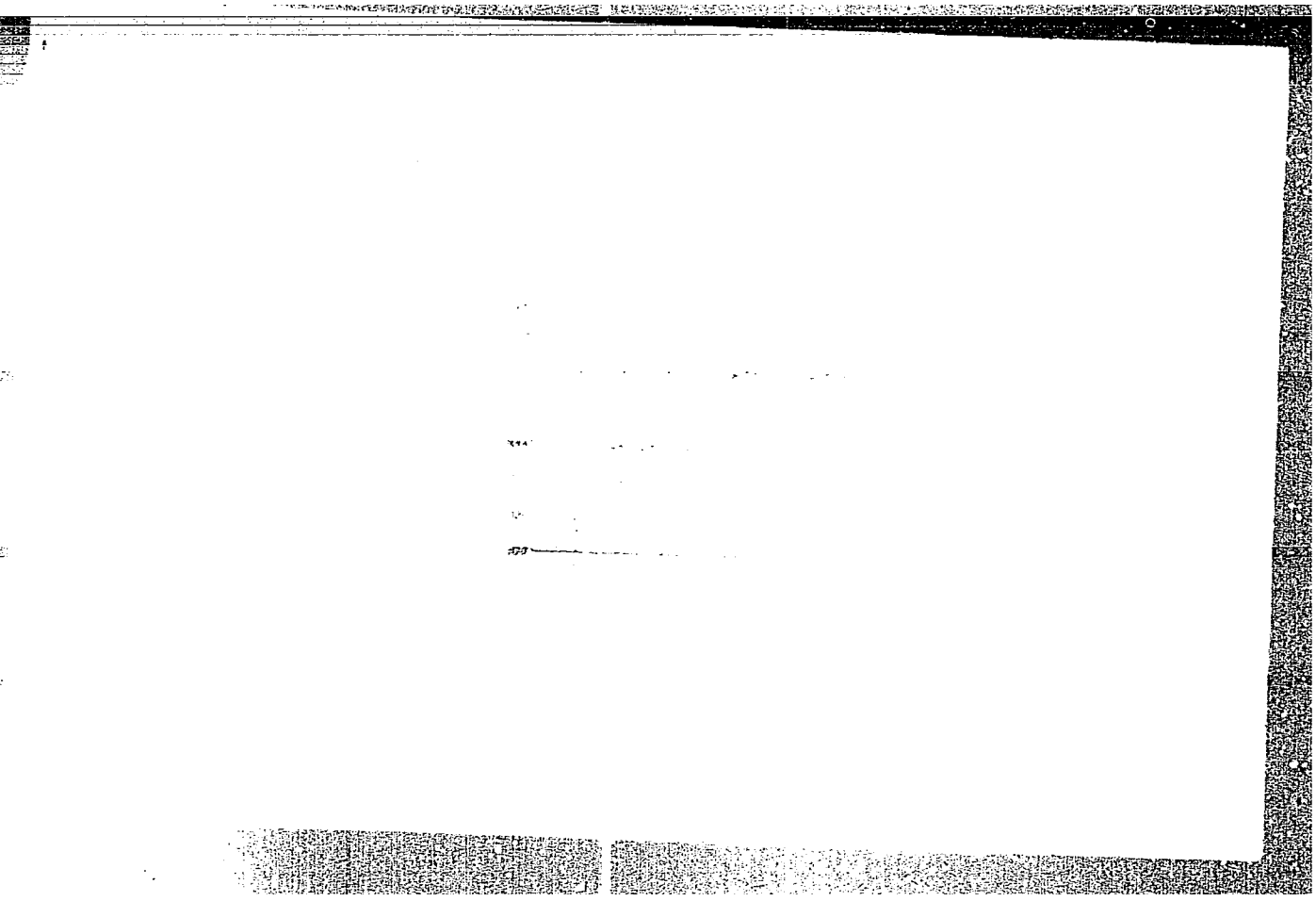




APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"

KULESHOV, N., akademik

A geographer, botanist, agronomist, and traveler. Nauka i zhizn' 30 no.9:26 S '63. (MIRA 16:10)

1. Akademiya nauk UkrSSR.

[redacted], A. A. Coal Tech Sci

Dissertation: "Conditions for the Rational Use of Belt Conveyers in Coal Pits."

26/6/50

Moscow Mining Inst Imeni I. V. Stalin

SO Vecheryaya Moskva
Sum 71

KULESHOV, Nikolay Andreyevich; NAZAROV, P.P., otvetstvennyy redaktor; OKHRIMENKO, V.A., redaktor izdatel'stva; KOROVENKOVA, Z.A., tekhnicheskiy redaktor

[Open-cut mining] Otkrytye gornye raboty. Moskva, Ugletekhizdat, 1956. 187 p.
(Strip mining) (MLRA 10:3)

KULESHOV, Nikolay Aleksandrovich; ISLANKINA, T.F., redaktor; GUBIN, M.F., tekhnicheskiy redaktor.

[At construction sites of the people's building projects; experience in apartment house building by worker's enterprises] Na ploshchadkakh narodnykh strook; opyt vozvedeniia zhilykh zdanii silami trudiashchikhsia predpriatii. Moskva, Izd-vo "Znanie," 1957. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.4 no.10) (MLRA 10:5)

(Apartment houses)

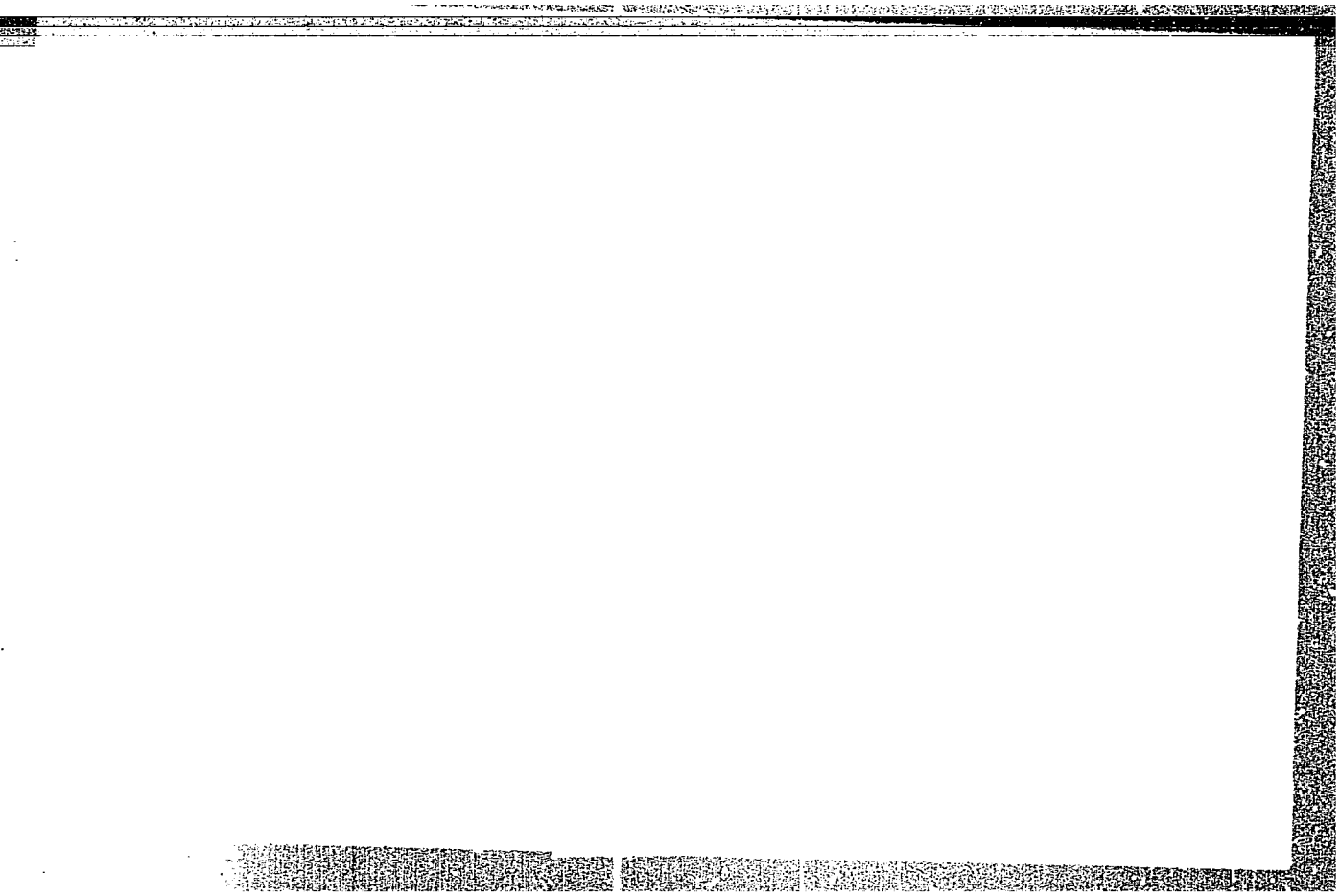
KULESHOV, Nikolay Andreyevich; NOVOZHILOV, M.G., prof., doktor tekhn.nauk, red.; ZURKOV, P.E., prof., doktor tekhn.nauk, red.; POPOV, S.I., dotsent, kand.tekhn.nauk, red.; DIDKOVSKIY, D.Z., inzh., otv.red.; KAUFMAN, A.M., red.izd-va; IL'INSKAYA, G.M., tekhn.red.

[Open-pit mining] Otkrytye gornye raboty. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 327 p. (MIRA 14:6)

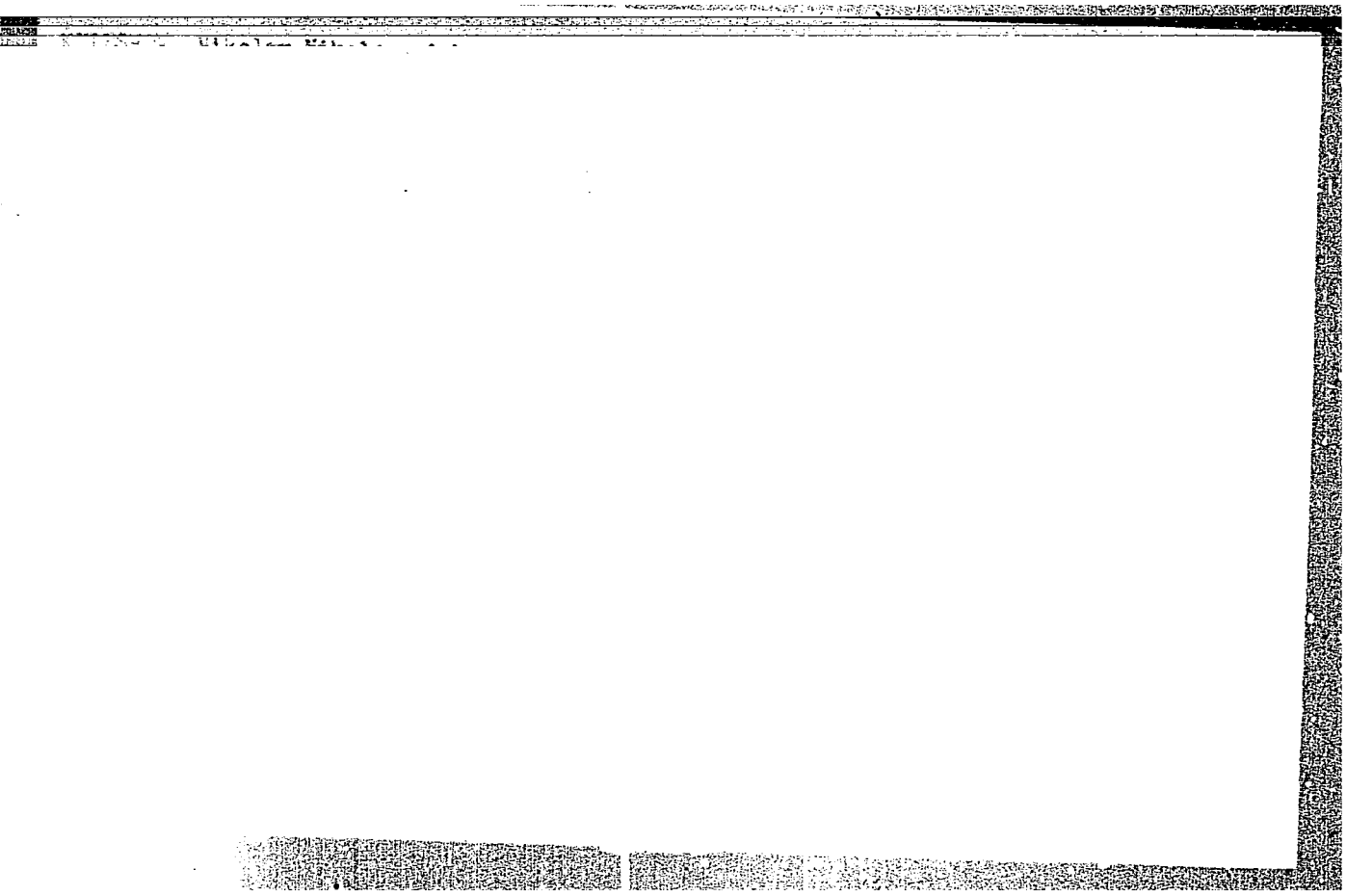
(Strip mining)

RZHEVSKIY, V.V., prof.,dokt.tekhn.nauk; BUYANOV,Yu.D., kand.tekhn.nauk; VASIL'YEV, Ye.I., kand.tekhn.nauk; DEMIN, A.M., kand.tekhn.nauk; KULESHOV, N.A., kand.tekhn.nauk; MEN'SHOV, B.G., kand.tekhn.nauk; NEVSKIY, V.N., kand.tekhn.nauk; POTAPOV, M.G., kand.tekhn.nauk; RODIONOV, L.Ye., kand.tekhn.nauk; SIMKIN, B.A., kand.tekhn.nauk; SUKHANOVA, Ye.M., kand.tekhn.nauk; YUMATOV, B.P., kand.tekhn.nauk; KHOKHRYAKOV, V.S., kand.tekhn.nauk; ALEKSANDROV, N.N., gornyy inzh.; ARISTOV, I.I., inzh.; BUGOSLAVSKIY, Yu.K., gornyy inzh.; DIDKOVSKIY, D.Z., inzh.; ONOTSKIY, M.I., inzh.; STAKHEVICH, Ye.B., inzh.; GEYMAN, L.M., red.izd-va; MAKSIMOVA, V.V., tekhn. red.; KONDRAT'YEVA, M.A., tekhn. red.

[Handbook for the strip-mine foreman] Spravochnik gornogo mastera kar'era. Pod red. V.V.Rzhevskogo. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 572 p. (MIRA 14:12)
(Strip mining)



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"

KULESHOV, N.N.

Forage Plants - Ukraine

Some questions on grass sowing in the forest steppe region of the Ukraine, Korm. baza 3 No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, July, 1952 1953, Uncl.

KULESHOV, N.N.

Maize

Using straw, chaff, and corn for feed. Korm. baza 3 no. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September, 1952. Unclassified.

USSR/ Agriculture Science

Card : 1/1

Authors : Kuleshov, N. N., Act. Member of Acad. of Sc. Ukr-SSSR

Title : Ukrainian scientists for agriculture

Periodical : Nauka i Zhizn', 5, 21 - 23, May 1954

Abstract : Speaking on the 300th anniversary of annexation of the Ukraine by Russia, the author summarizes the great contributions of Ukrainian scientists to the development of agriculture in the USSR. Illustrations.

Institute : ....

Submitted : ....

POLFEROV, B.V.; KUZ'MICHEV, V.P.; KULESHOV, N.N.

Development and ripening of corn kernels on the cob. Fiziol. rast. 3 no.1:36-42 Ja-F '56. (MLRA 9:5)

1. Kafedra rasteniyevodstva Khar'kovskogo sel'skokhozyaystvennogo instituta.

(Corn (Maize))

KULESHOV, Nikolay Nikolayevich, red.

[Corn] Kukurudza. Kyiv, Derzh.vyd-vo silskohospodarskoi lit-ry Ukrainskoi RSR, 1958. 286 p. (MIRA 12:3)
(Corn (Maize))

COUNTRY : USSR
CATEGORY : Cultivated Plants. Cereals. M

ABS. JOUR. : RZhBiol., No. 1958, No. 104635

AUTHOR : Kuleshov, N. N.
INST. : Kharkov University
TITLE : Method of Indicator Varieties in the Evaluation of the Fitness of Corn Hybrids and Varieties for New Regions.

ORIG. PUB. : V. sb.: Vopr. metodiki selektsii pshenitsy i kukuruzy. Khar'kov, Un-t, 1957, 163-170

ABSTRACT : A method of indicator variety was proposed at Ukrainian Institute of Plant Growing for an evaluation of the fitness of corn hybrids and varieties in the enlargment of their sowings in new areas, and consisting of a preliminary study of the development stages of the plants of different varieties in comparison with one, usually the earliest maturing, indicator variety. If at a given point, the indicator variety reaches, for example, full maturity, and another variety only the waxy stage, , then at another, more northerly point, the indicator will reach, for example, the waxy

Card:1/2

COUNTRY :
CATEGORY : M

ABS. JOUR. : RZhBiol., No.23, 1958 No.104635

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : stage of maturity, and another variety only the milkystage. With a comparative study for a minimum of 3 years, the sum of temperatures of each stage is determined. Later, raising the seeds of these and other varieties in southern regions, it is feasible to determine beforehand by the indicator variety, up to which stage this or another variety will develop in the northerly region. It is recommended that the method be verified on large-scale material.--N.F. Fedorova

Card: 2/2

COUNTRY : USSR
CATEGORY : General Biology B
Genetics. Plant Genetics.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 9731

AUTHOR : Lantsevich, G. F., Kuleshov, N. N.
INST. : Ukrainian Scientific Research Institute of *
TITLE : The Degree of Heterosis in Maize Hybrids In Relation to Their Growth Conditions.

ORIG. PUB. : Byul. Ukr. n.-i. in-ta rastenivodstva, seleits. i genet., 1956, No 2, 95-98
ABSTRACT : The experiments were performed against two backgrounds: with and without irrigation. Under the conditions of irrigation the Uspekh (Success) and VIR-25 hybrids produce a larger ear than parent forms while according to its weight the VIR-42 hybrid's ear does not surpass the ears of parent forms in these conditions. Against the background of non-irrigation the Uspekh and VIR-25 hybrids reduce their ear's weight less than their parent forms. It was determined that under the

Card: 1/2

*Plant Growing and Genetics.

COUNTRY : USSR
CATEGORY :

ABS. JOUR. : RZhBiol., No. 1959, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : various weather conditions of different years the same hybrids display a varied measure of heterosis. -- S. Ya. Kraycvoy

CARD: 2/2

KULESHOV, Nikolay Nikolayevich, red.

[Corn kernel varieties] Zernovi kolosovi kul'tury. Kyiv, Derzh. vyd-vo sil's'kohospodars'koi lit-ry URSR, 1959. 413 p. (MIRA 15:2)

(Corn (Maize))—Varieties)

SYUY FYN' [Hsü Fen] KULESHOV, N.N.

Method for studying the root system of corn under field conditons. Fiziol. rast. 6 no.5:611-614 S-O '59. (MIRA 13:2)

1.Department of Plant Growing, Kharkov Agricultural Institute.
(Roots (Botany)) (Corn (Maize))

KULESHOV, Nikolay Nikolayevich, akademik; KAL'NITSKIY, M.Ya., red.

[Road to large and stable corn crops] Put' k vysokim ustroichivym urozhaiam kukuruzy. Khar'kov, Khar'kovskoe knizhnoe izd-vo, 1962. 36 p. (MIRA 17:9)

1. Akademiya nauk Ukr.SSR i Ukrainskaya Akademiya sel'skokhozyaystvennykh nauk (for Kuleshov).

KULESHOV, N.N.

"Buchwheat in Eastern Siberia" by A.A.Baertuev. Reviewed by N.N.Kuleshov. Zemledelie 24 no.3:96 Mr '62. (MIRA 15:3)
(Siberia, Eastern--Buchwheat)
(Baertuev, A.A.)

KULESHOV, N. N.

"Seed testing and distribution"

report to be submitted for the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas - Geneva, Switzerland, 4-20 Feb 63.

KULESHOV, N.N.; MARCHENKO, L.A.

Method for studying the corn root system. Fiziol. rast. 9 no.5:631-634 '62. (MIRA 15:10)

1. Department of Plant Industry Kharkov Agricultural Institute.
(Roots(Botany)) (Corn(Maize))

KULESHOV, N.N.

Wintering of winter crops during the 1955-56 and 1959-60 winters and the necessity of improving the methods of studying this phenomenon. Trudy UkrNIGMI no.37:15-22 '63. (MIRA 17:3)

KARPENKO, P.V., doktor sel'khoz. nauk, zasl. deyatel' nauki RSFSR; KULESHOV, N.N., akademik, retsenzent; ORLOVSKIY, N.I., prof., retsenzent; PILIPETS, G.V., prof., retsenzent; IVANOV, S.Z. prof., retsenzent; GRACHEVA, V.S., red.

[Sugar-beet growing] Sveklovodstvo. Izd.3., perer. Moskva, Kolos, 1964. 307 p. (MIRA 17:10)

KULESHOV, Nikolay Nikolayevich, prof, akademik, zasl. deyatel' nauki; LAPSHINA, O.V., red.

[Agronomical study of seeds] Agronomicheskoe semenovedenie. Moskva, Sel'khozizdat, 1963. 303 p. (MIRA 17:12)

1. Khar'kovskiy sel'skokhozyaystvennyy institut im. V.V. Dokuchayeva (for Kuleshov).

ZAK, L.A.; KULESHOV, N.P.; PETROV, I.A.; SMIRYAGIN, V.P., otv. red.; ORLOVA, I.A., red.; POPOVA, N.S., tekhn.red.

[Punched card information input and output systems of the BESM-2 computer] Sistema ustroistv vvoda i vyvoda na perfokartakh vychislitel'noi mashiny BESM-2. Moskva, Vychislitel'nyi tsentr AN SSSR, 1961. 26 p. (MIRA 15:2)
(Electronic calculating machines--Input-output equipment)

KULIKOV, P.

In the collective farm defense group. Voen.znan. 31 no.7:23 Jl '56. (MLRA 10:8)

1.Predsedatel' rayonnogo komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu, g. Inza, Ul'yanovskoy oblasti.

(Military education)

KULESHOV, P., kand.tekhn.nauk

Wages in the Zaporozh'ye By-Product Coke Industry Plant.
Sots. trud 8 no.2:40-44 F '63. (MIRA 16:2)

1. Direktor Zaporozhskogo koksokhimicheskogo zavoda.
(Zaporozh'ye—Wages—Coke industry)

KULESHOV, P. F.

PA 2/49T44

USSR/Engineering
Machinery - Construction
Castings

Jul 48

"Progressive Technology of Production of Heavy-Duty Castings," V. M. Shestopal, Machine Tools; P. F. Kuleshov, "StankoLit" Works, 8 pp

"Vest Mashinostroy" No 7

Describes general advances made in technology of casting heavy parts for machinery to fulfill present Five-Year Plan. Touches on production of StankoLit Works, and results obtained by introducing technology of heavy-duty casting.

2/49T44

KULESHOV, P. F.

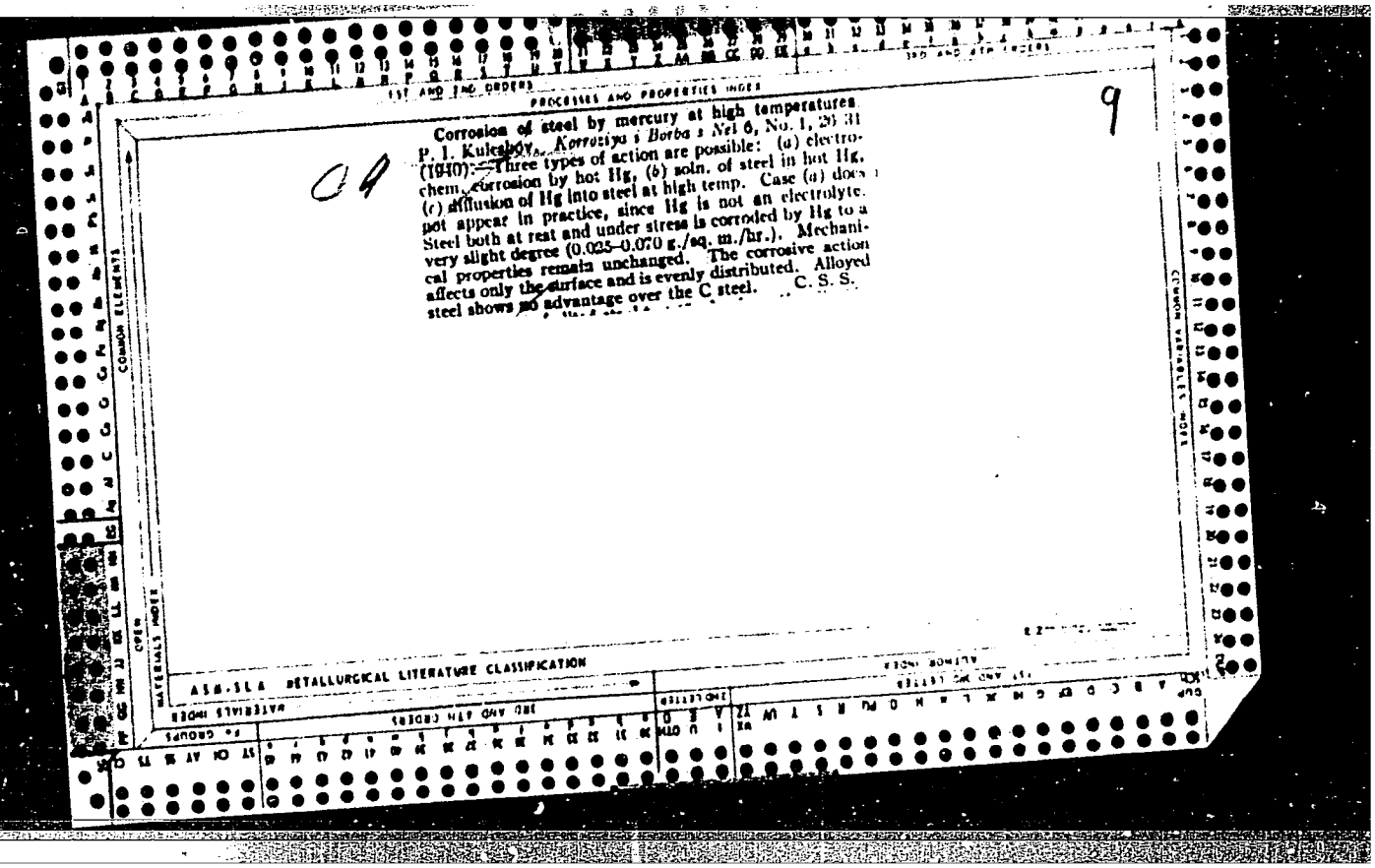
USSR/Engineering - Foundry, Equipment Mar 52

"Rapid Mold Making for Medium and Large Castings," G. I. Kletskin, Cand Tech Sci, P. F. Kuleshov, Engr, "Stankolit" Plant

"Litey Proizvod" No 3, pp 7-14

Describes method and equipment for drying molds with dried-off lining, which were developed and adopted for foundry practice in 1947. Discusses various mold-facing mixts and compares method of pouring into dry-face molds with use of dry-sand molds. Chief advantage is possibility to arrange continuous production line for medium and large castings.

212T71



Corrosion of steel by mercury at high temperatures. P. I. Kuleshov. *Korroziya i Borba s Nei* 6, No. 1, 29–31 (1940).—Three types of action are possible: (*a*) electrochem. corrosion by hot Hg, (*b*) soln. of steel in hot Hg, (*c*) diffusion of Hg into steel at high temp. Case (*a*) does not appear in practice, since Hg is not an electrolyte. Steel both at rest and under stress is corroded by Hg to a very slight degree (0.025–0.070 g./sq. m./hr.). Mechanical properties remain unchanged. The corrosive action affects only the surface and is evenly distributed. Alloyed steel shows no advantage over the C steel. C. S. S.

KULESHOV, P. I.

USSR/Physics - Crystallography Jul 52

"Effect of Crystalline Structure on Limit of Fluidity of a Polycrystal," P. I. Kuleshov

"Zhur Tekh Fiz" Vol XXII, No 7, pp 1174-1183

Suggests a general method for computing the limit of fluidity of a polycrystal from the properties of the grain. Analyzes the occurrence of fluidity in polycryst metals of the copper or iron type under linear or plane tensions. Shows that the cryst structure does effect the limit of fluidity. Received 10 Apr 52.

223T105

KULESHOV, P. I.

USSR/Physics - Technical physics

Card 1/1 : Pub. 22 - 19/44

Authors : Kuleshov, P. I.

Title : Approach of yield point during torsion of metallic crystals

Periodical : Dok. AN SSSR 97/6, 1015-1018, Aug 21, 1954

Abstract : The approach of yield point during the torsion of crystals with cubical face-and volumetrically centered and hexagonally densely packed lattices, was investigated. The yield point was calculated in accordance with the law of shearing stress and under the assumption that the samples have the form of thin-walled cylindrical tubes. The torsional yield points of the tested metallic crystals of cubical and hexagonal systems, are presented in a table. Two references: 1-USA and 1-German (1926 and 1929). Table; graphs; drawing.

Institution : The N. S. Khrushchev Donetskiy Industrial Institute

Presented by : Academician N. V. Belov, June 23, 1954

KULESHOV, P.I.

122-3-8/30

AUTHOR: Seleznev, N.N., Engineer, Braynin, I.Ye, Professor, and Kuleshov, P.I., Candidate of Technical Sciences, Dotsent.

TITLE: On the Nature of the Bright Zone in the Layer Adjoining the Friction Surface of Steel (O prirode svetloy zony v sloye, prilegayushchem k poverkhnosti treniya stali)

PERIODICAL: Vestnik Mashinostroyeniya, 1957, No.3, pp. 35 - 39 (USSR)

ABSTRACT: The white layer observed under the surface of machined components which have been subjected to wear and friction has been explained in a variety of ways. Saturation with nitrogen from the air, presence of oxygen compounds, dislocation of the austenite lattice and quenching from high temperatures are plausible theories. Tests were carried out in the Institute's laboratory on samples of low carbon, medium carbon and chromium tool steel. Machines of the MI type (Moscow Experimental Plant for Testing Machines and Weights) (Moskovskiy Eksperimental'nyy Zavod ispytatel'nykh mashin i vesov) and the TMI type of the Donets Industrial Institute (Donetskiy Industrial'nyy Institut) were used with a wide variation of sliding speeds and loads. Sliding friction tests with and without lubrication with "Avtol" oil were conducted. The samples consisted of 7 mm thick rollers

Cardl/4 of 35 and 50 mm dia. rubbing against blocks of 10 mm thickness

On the Nature of the Bright Zone in the Layer Adjoining the Friction Surface of Steel.

with an enveloping angle of 66, 80 and 180°. Samples for the larger TMN machines were sleeves of 90 mm outside dia. and 70 mm inside diam. either 15 mm or 100 mm long. The sleeves rotate inside the bearing bushes forming the counterpart of the sliding pair. In the smaller machines the specific pressure varied between 5 and 50 kg/cm^2 under dry friction and between 25 and 100 kg/cm^2 with lubrication. The speed varied between 0.367 and 1.067 m/sec. In the larger machines the pressure under dry friction was 30 - 60 kg/cm^2, with lubrication, 60 - 90 kg/cm^2, the speed varied between 1.22 and 4.05 m/sec. Metallographic analysis of the micro-structure, hardness and micro-hardness measurements, X-ray structure and spectral analyses and temperature measurements in the contact zone were employed. The finer structure of the layer underneath the surface reveals a complex pattern which is the white layer. A micro-thermocouple with its junction 0.2 mm underneath the surface of the block or bearing sleeve revealed temperatures of up to 550-600 ° in the smaller machines and up to 700-850 °C in the larger machines. The results obtained and illustrated by micro-photographs show that during the wear process, there is a concentration of carbon in the surface layer. At first, under

On the Nature of the Bright Zone in the Layer Adjoining the Friction Surface of Steel.

the influence of shear and direct stresses, a plastic deformation of structural components takes place. The grains are drawn out, flattened and subsequently broken up and inter-mixed, forming a highly-disperse ferrite-cementite mixture. Subsequently, owing to the squeezing out of the ferrite and its wearing away, the surface becomes enriched with cementite. The high temperatures at the surfaces assist the diffusion of carbon from the counter-part body surface. This diffusion was proved also by the presence of chromium in tests where it could only have originated in the counterpart surface. Under the influence of temperature and residual stresses, the process of coagulation of separate cementite grains also takes place. Austenite is formed as a result of surface heating and deformation and by rapid cooling this austenite is largely transformed into martensite. However, the more bulky cementite formations are not dissolved and therefore the bright layer consists of martensite, residual austenite and alloyed cementite.
There are 11 figures, including 9 photographs and 2 graphs, 2 tables and 8 references, 7 of which are Slavic.

122-3-8/30

On the Nature of the Bright Zone in the Layer Adjoining the Friction Surface of Steel.

ASSOCIATION: Donets Industrial Institute imeni N.S. Khrushchev (Donetskiy industrial'nyy institut imeni N.S. Khrushcheva)

AVAILABLE: Library of Congress.

Card 4/4

SOV/124-58-2 2377

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 116 (USSR)

AUTHOR: Kuleshov, P. I.

TITLE: On the Orientation Dependence of the Torsional Yield Strength of Hexagonal Metallic Crystals (O zavisimosti predela tekuchesti krucheniya metallicheskikh kristallov geksagonal'noy sistemy ot oriyentirovki)

PERIODICAL: Tr. Donetsk. industr. in-ta, 1957, Vol 19, pp 47-52

ABSTRACT: An evaluation of the torsional yield strength of hexagonal crystals It is shown that the yield point depends basically on the angle between the axis of the specimen and the hexagonal axis. It is established that the effect of the orientation on the value of the torsional yield point is extremely pronounced and that there is an orientation at which slip is found to be quite impossible.

From the résumé

Card 1/1

KULESHOV, P.I.

137-58-1-1977

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 265 (USSR)

AUTHOR: Kuleshov, P.I.

TITLE: On the Plotting of Graphs for Indexing of Powder X-ray Photographs of Hexagonal and Tetragonal Substances (K voprosu postroyeniya grafikov dlya inditsirovaniya rentgenogramm poroshka geksagonal'nykh i tetragonal'nykh veshchestv)

PERIODICAL: Tr. Donets. industr. in-ta, 1957, Vol 19, pp 53-57

ABSTRACT: Methods of plotting graphs and logarithmic scales for indexing of powder x-ray photographs of substances the structures of which adhere to the hexagonal or tetragonal syngonies are examined. It is considered desirable to reduce the number of curves on the graphs plotted in the coordinates $\log (1/\sin\theta)$-(c/a) : to 21 in the case of the hexagonal lattice and to 24 in the tetragonal, in place of the 37 and 51 curves, respectively, previously employed. This makes it possible to increase the scale of the logarithmic scale and simplifies operations with the graphs. If the number of curves seems inadequate for complete indexing, the graph may be expanded within a narrow interval of c/a values or even for a single c/a value, determined in advance along that section of the lines which it is possible to index. It is proposed

Card 1/2

137-58-1-1977

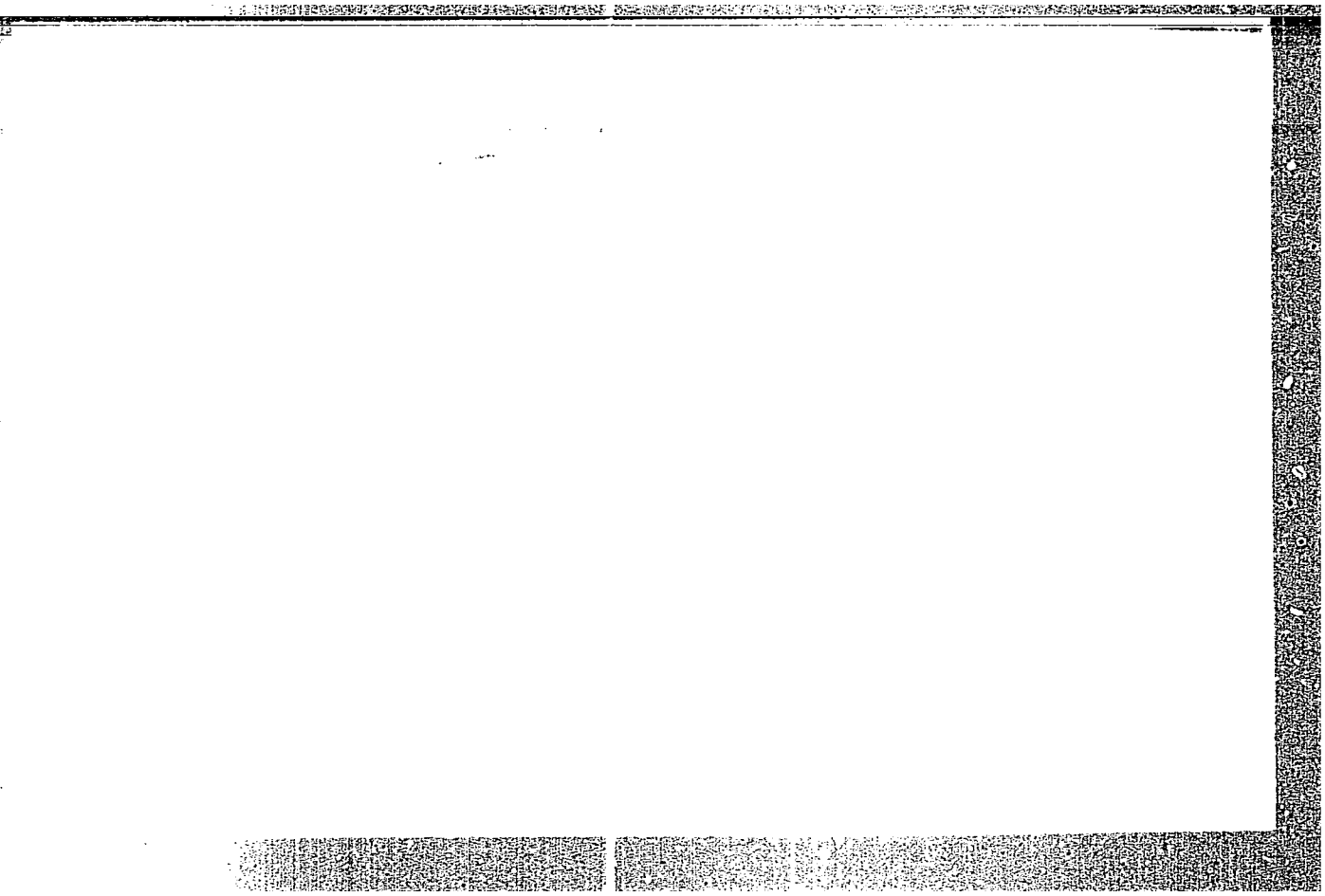
On the Plotting of Graphs (cont.)

that sin θ be inscribed directly on the logarithmic scale, but in the inverse order. The values entered on the logarithmic scale should be multiplied by a factor of 1,000.

V. S.

1. Materials—Applications 2. X-ray photography—Applications 3. Charts —Indexes—Determination

Card 2/2



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927410010-7"

KULESHOV, P. I.: Doc Tech Sci (diss) -- "The effect of crystal struture on the limits of fluidity of metals". Leningrad, 1958. 16 pp (Min Higher Educ USSR, Leningrad Polytechnic Inst im M. I. Kalinin), 150 copies (KL, No 3, 1959, 109)

AUTHOR: Kuleshov, P.I. SOV/126-6-5-25/43

TITLE: Analysis of the Yield Point of Metallic Crystals in the Case of Combined Methods of Loading (Analiz predela tekuchesti metallicheskikh kristallov pri slozhnykh sposobakh nagruzheniya)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 5, pp 924 - 928 (USSR)

ABSTRACT: The yield point of metallic crystals has been studied mainly for linear tensile loading. More complicated cases of loading have been less well studied or not at all. Only a few papers (Refs 1 - 5) have been published on static torsion of monocrystals; these include earlier work by the author of this paper (Ref 4). Cox and Sopwith (Ref 6) published work on combined loading but they limited themselves to obtaining a general formula for the case of cubic face-centred lattices.

Card 1/3

Analysis of the Yield Point of Metallic Crystals in the Case of Combined Methods of Loading

Experimental study of the problem involves various difficulties, partly because the experimental techniques are complicated and also because little theoretical work has been done on the problem. The aim of the work described in this paper was to partly fill this gap. In the same way as in earlier published work (Refs 2,4,6) the starting assumptions of the authors are based on the law of shear stresses. The dependence of the yield point on the orientation and the stress state is investigated in crystals with cubic and hexagonal lattices. In the first paragraph an analysis is presented of the stresses in a given sliding system; in the second paragraph, the yield point is investigated for a given point, whilst in the last paragraph an expression is derived for the yield point of the crystalline specimens, Eq (5). Relative yield point values, s_s/τ_K, calculated on the basis of this derived Eq (5) for hexagonal and cubic lattices, are graphed in Figure 4 (s_s being the average yield

Analysis of the Yield Point of Metallic Crystals in the Case of Combined Methods of Loading

point of the monocrystal in the case of non-uniform distribution of the shear stress, τ_K the crystallographic yield point). It can be seen that the s_s/τ_K values are influenced both by the state and orientation of the stresses but these influences differ for different crystal lattices.
There are 4 figures and 9 references, 4 of which are Soviet, 2 German and 3 English.

ASSOCIATION: Donetskiy industrial'nyy institut (Donetsk Industrial Institute)

SUBMITTED: October 31, 1956 (initially)
November 10, 1957 (after revision)

S/137/62/000/001/127/237
A052/A101

AUTHOR: Kuleshov, P. I.

TITLE: An analysis of the effect of grain size and texture on the yield limit of polycrystalline metals under complex stress conditions

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 21, abstract 1I142 ("Tr Donetsk. industr. in-ta", 32, 1958, 25-44)

TEXT: An improved variant of the method of calculating σ_s of polycrystals taking into account the crystalline structure is suggested. The method extends the possibilities of analyzing the effect on σ_s of the grain size and the texture at various states of stress (simple, biaxial, uniform and non-uniform tension, plain torsion and torsion with tension). The effect of the grain size was evaluated from the change of the ratio of σ_s of the given stress to σ_s of the plain tension. This ratio is different, at the considered states of stress, for the fine and coarse grain, and changes differently with the transition from one state of stress to another. With a decrease of the grain size its effect as a crystallographic factor decreases. A similar tendency is discovered also for the type of crystal lattice: at a very fine grain and at its completely

Card 1/2

An analysis of the effect ...

arbitrary orientation, the crystal lattice does not affect σ_s. The effect of texture on the ratio of the yield limit at torsion to that at tension proved to be a rather considerable one; the value of this ratio in the presence of texture decreases noticeably. There are 11 references.

I. Kop'yev

[Abstracter's note: Complete translation]

Card 2/2

SOV/126-7-1-12/28

AUTHORS: Kuleshov, P.I. and Chayka, I.I.

TITLE: The Nature and Mechanism of Formation of a Surface Layer in Carbon Steel Containing Arsenic (O prirode i mekhanizme obrazovaniya poverkhnostnogo sloya na uglerodistoy stali s primes'yu mysh'yaka)

PERIODICAL: Fizika Metallov i Metallovedeniye, Vol 7, Nr 1, pp 91-94 (USSR) 1959

ABSTRACT: In papers by Sandler et al. (Ref.1) and Nikitina (Ref.2) it was shown that during high temperature oxidation of carbon steel and iron containing arsenic, the concentration of arsenic in the metal surface layer next to the scale increases considerably. In arsenious steel this phenomenon has only recently been discovered. In particular, the nature of the metal surface layer which becomes enriched in arsenic has so far been unknown. Hence, this article is devoted to this subject. The authors of this paper studied the surface layer in two steels of different arsenic content and approximately the same content of other components (see Table 1). The specimens were annealed at 950 and 1100°C in an atmosphere of room air. In Fig.1a

Card 1/4

The Nature and Mechanism of Formation of a Surface Layer in Carbon Steel Containing Arsenic

and b the microstructure of the surface layer obtained in specimens containing 0.127 and 0.204% As after oxidation at 1100°C is shown. From these photographs it can be seen that the surface is completely decarburised, and below the scale there is a uniform light-coloured layer which is separated from the base metal (ferrite) by a sharp boundary. On ageing in a 10% alcoholic solution of iodine the layer becomes dark, whereas the under-layer of ferrite remains light (see Fig.2a). Such difference in colour indicates a higher arsenic content in the layer, as well as a sharp change in arsenic concentration in the layer-metal boundary. The colour of ferrite becomes darker the further away from the boundary it is. Hence, the arsenic concentration gradually increases with distance from the boundary. In Table 2 lattice parameters of ferrite in the outer surface layer and at depths of 0.02 and 0.06 mm for a steel containing 0.204% arsenic are shown; from this the arsenic concentration has been calculated. From the above

 results the following conclusions have been derived: